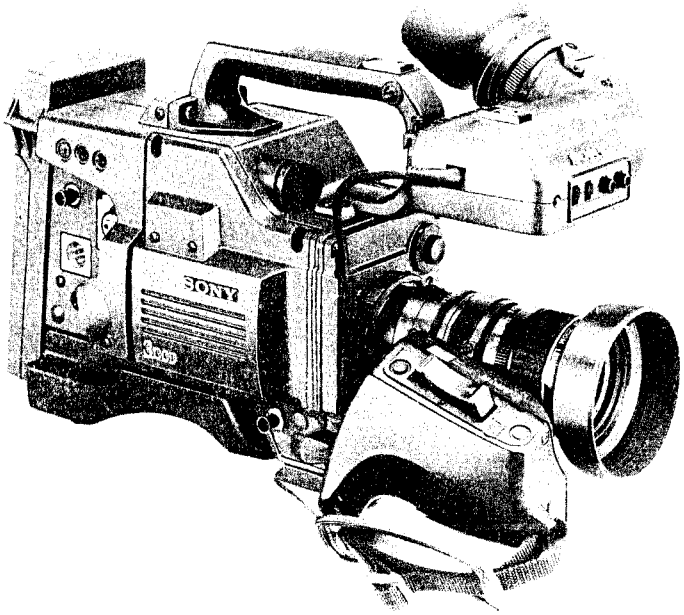
DXC-325P
CA-325P
DXF-325CE
VCL-810BX

COLOR VIDEO CAMERA
CAMERA ADAPTOR
1.5INCH ELECTRONIC VIEWFINDER
ZOOM LENS

VOL. 2 Revised-1

BLOCK DIAGRAMS
SEMICONDUCTORS
SCHEMATIC DIAGRAMS
BOARD ILLUSTRATIONS
SPARE PARTS



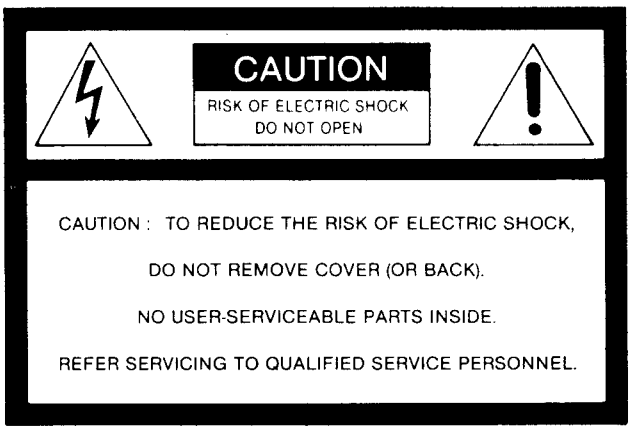
SONY®

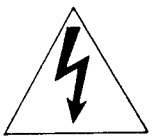
SERVICE MANUAL

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.





This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A comuputing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

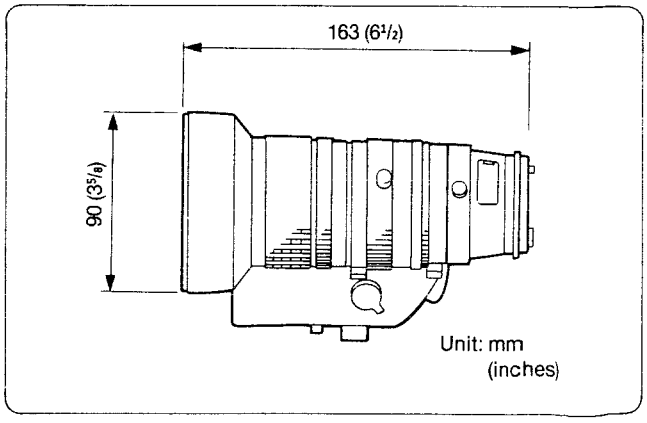
The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

ZOOM LENS

SPECIFICATIONS

Focal length	8 to 80 mm
Zoom	Manual and motorized, selectable Zooming ratio: 10 ×
Maximum aperture ratio	1.4
Iris control	Manual and auto, selectable 1.4 to 16 and C (closed)
Range of object field (at the distance of 1.1 m)	W (wide angle): 622 × 829 (24 1/2 × 32 3/4 inches) T (telephoto): 65 × 87 mm (2 5/8 × 3 1/2 inches)
Minimum object distance	1.1 m
Filter thread	62 mm dia., 0.75 pitch
Mount	Bayonet mount
Weight	Approx. 920g (2 lb) with lens hood
Supplied accesory	Operating instructions (1)

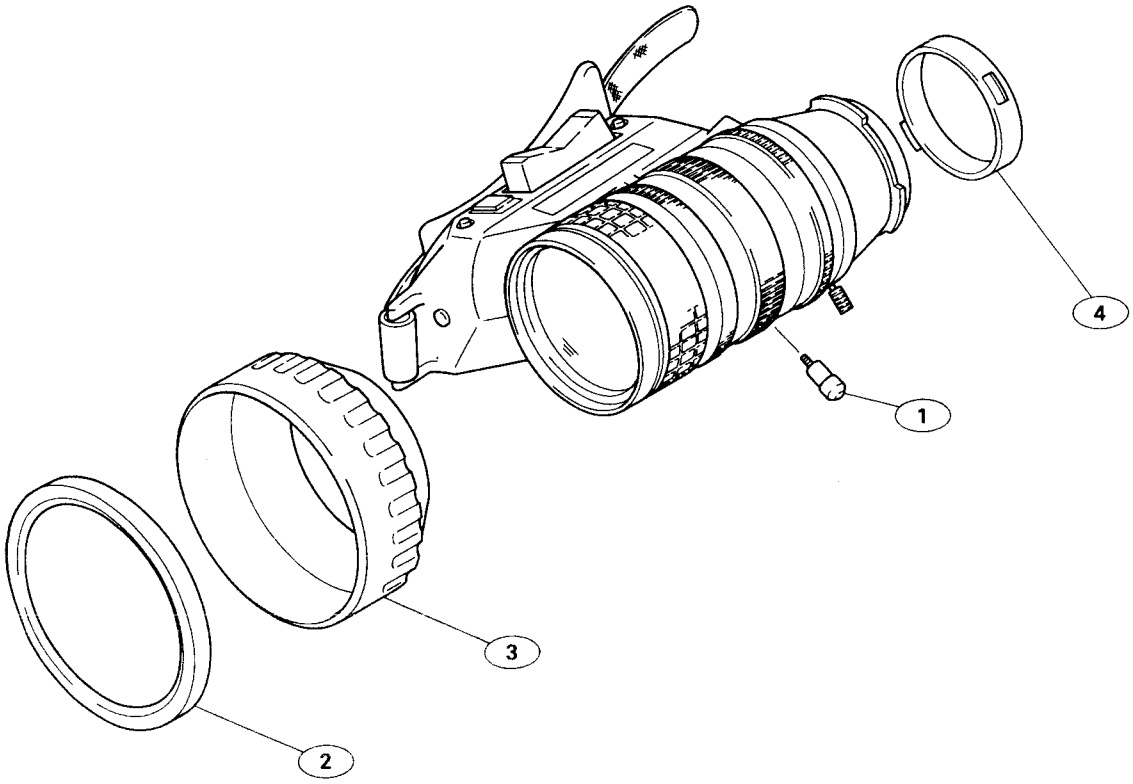
Dimensions



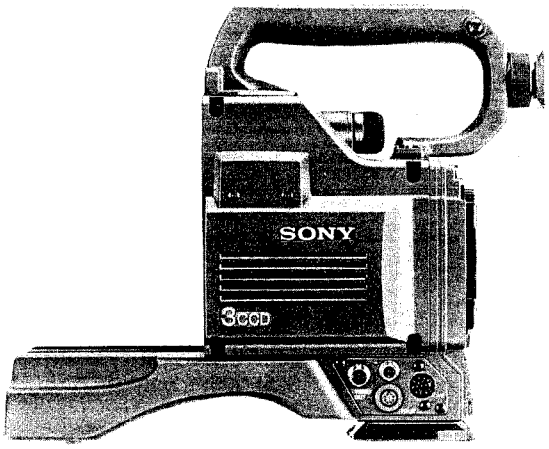
Design and specifications are subject to change without notice.

SONY®
SERVICE MANUAL

No.	Parts No.	SP	Description
1	3-707-037-01	o	LEVER, ZOOM
2	3-707-544-01	o	CAP, FOOD
3	3-707-545-01	o	FOOD
4	3-707-546-01	o	CAP, DUST



COLOR VIDEO CAMERA



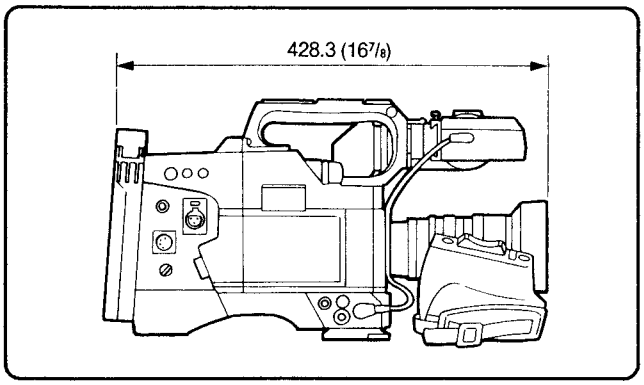
SPECIFICATIONS

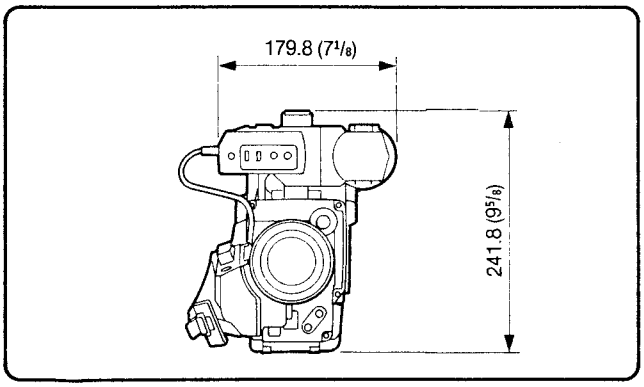
Camera head (DXC-325/325P) and camera adaptor (CA-325/325P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	510 × 492 (h/v) (NTSC) 500 × 582 (h/v) (PAL)
Sensing area	6.4 mm × 4.8 mm (equivalent to a 1/2-inch pickup tube)
Built-in filters	1: 3200 K 2: 5600 K + 1/8 ND 3: 5600 K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC 325) CCIR standards, PAL color system (for DXC 325P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL) Vertical: 59.94 Hz (NTSC) 50.00 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK input connector or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK connector of the CCU-M3/M3P
Horizontal resolution	530 lines (center)
Minimum illumination	20 lux with F1.4, + 18 dB (NTSC) 20 lux with F1.4, + 18 dB (PAL)
Sensitivity	2000 lux with F5.0, at 3200 K (NTSC) 2000 lux with F5.0, at 3200 K (PAL)
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	Composite signal: 1.0 V(p-p), sync negative, 75Ω unbalanced Y/C separate signal: Y: 1.0 V(p-p), sync negative, 75Ω unbalanced C: burst level 0.286 V (NTSC) 0.3 V (PAL) 75Ω without sync
Signal to noise ratio	58 dB (NTSC) 56 dB (PAL)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III

SONY®
SERVICE MANUAL

Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin DC IN: XLR-type, 4-pin MIC IN: XLR-type, 3-pin GEN LOCK: BNC-type VIDEO OUT: BNC-type LENS: 1/2-inch lens connector (7-pin) 2/3-inch lens connector (6-pin) VF: 8-pin EAR: mini jack INTERCOM: mini intercom TITLE: 8-pin
Power requirements	12 V DC
Power consumption	8 W (without viewfinder)
Operating temperature	−5°C to +45°C (23°F to 113°F)
Storage temperature	−20°C to +60°C (−4°F to 140°F)
Weight	3 kg (4 lb 7 oz)
Dimensions	See the illustrations below. Unit: mm (inches)





Carrying case (LC-325)

Weight	Approx. 4.4 kg (9 lb 8 oz)
Dimensions	Approx. 608 × 260 × 386 mm (w/h/d) (24 × 10 1/4 × 15 1/4 inches)

Accessories supplied

CCQ-2BRS camera cable (with Q-type 14-pin connectors) (supplied with the DXC-325K/325PK/325L/325PL only) (1)
CA-325/325P camera adaptor (supplied with the DXC-325K/325PK/325L/325PL only) (1)
VCL-810BX zoom lens (supplied with the DXC-325K/325PK only) (1)
DXF-325/325CE electronic viewfinder (supplied with the DXC-325K/325PK/325L/325PL only) (1)
LC-325 carrying case (supplied with the DXC-325K/325PK/325L/325PL only) (1)
Lens cap (1)
Chart for flange focal length adjustment (1)

Design and specifications are subject to change without notice.

TABLE OF CONTENTS

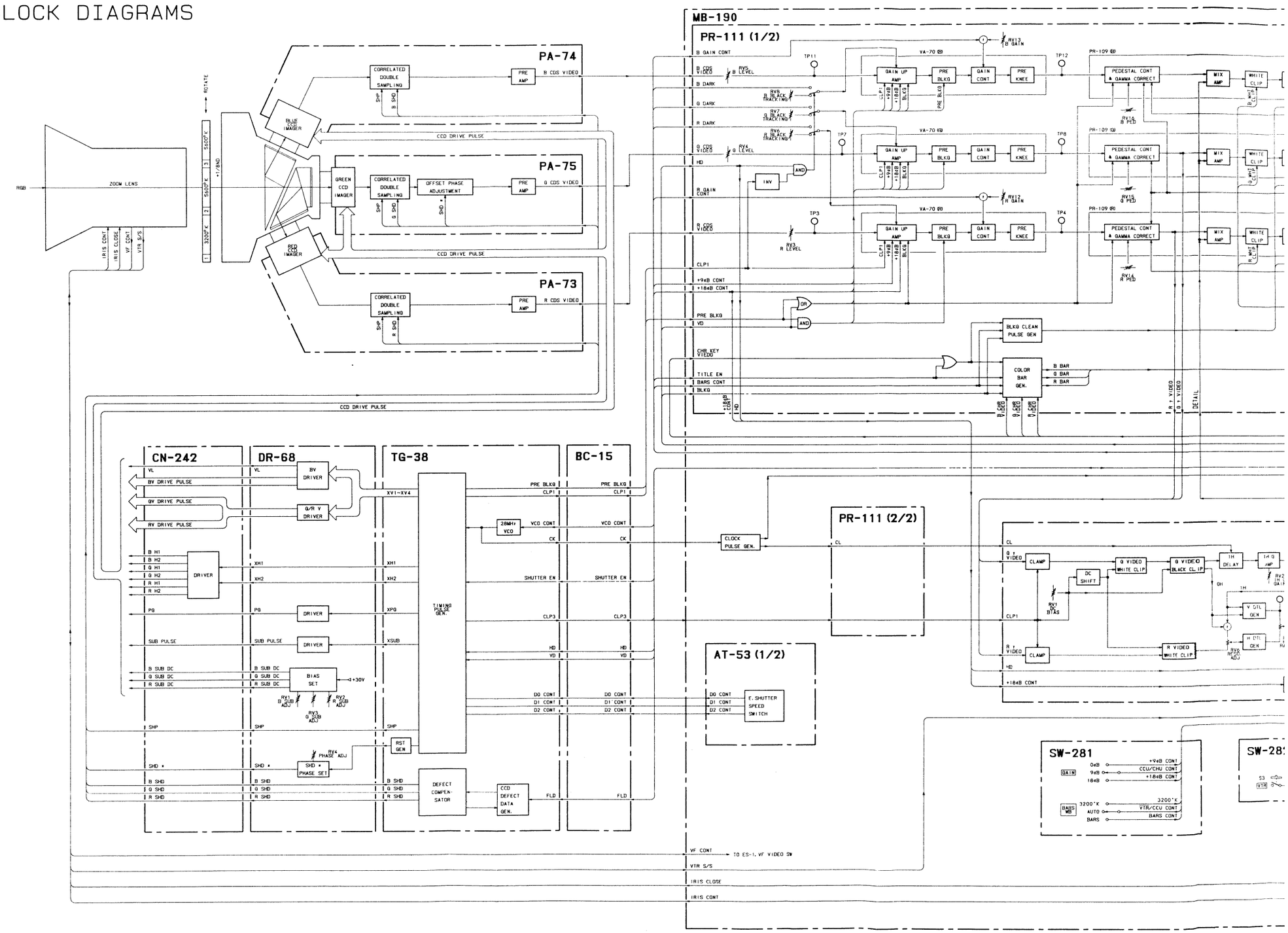
A. BLOCK DIAGRAMS

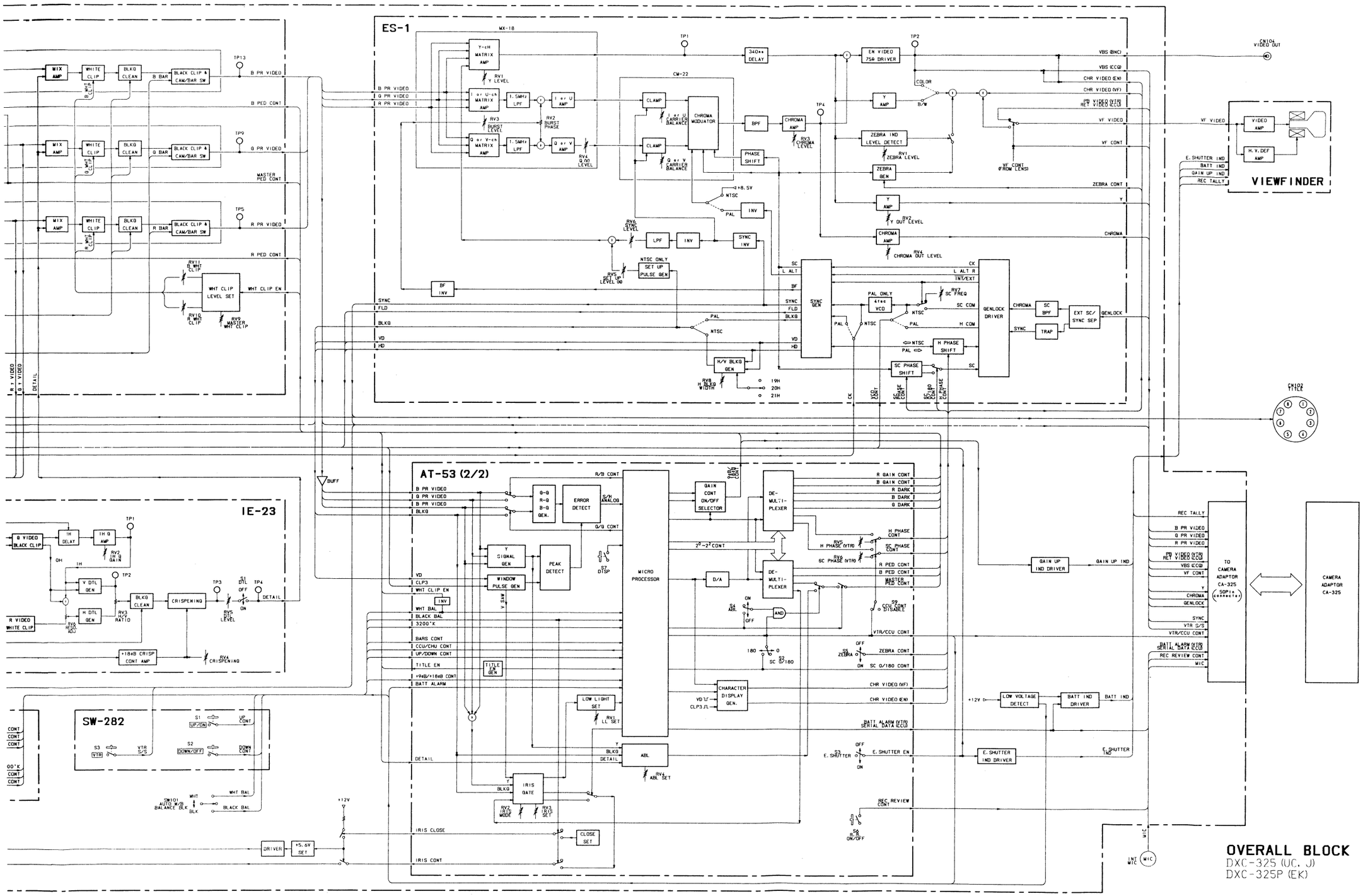
B. SEMICONDUCTOR

C. SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS

D. SPARE PARTS

SECTION A
BLOCK DIAGRAMS

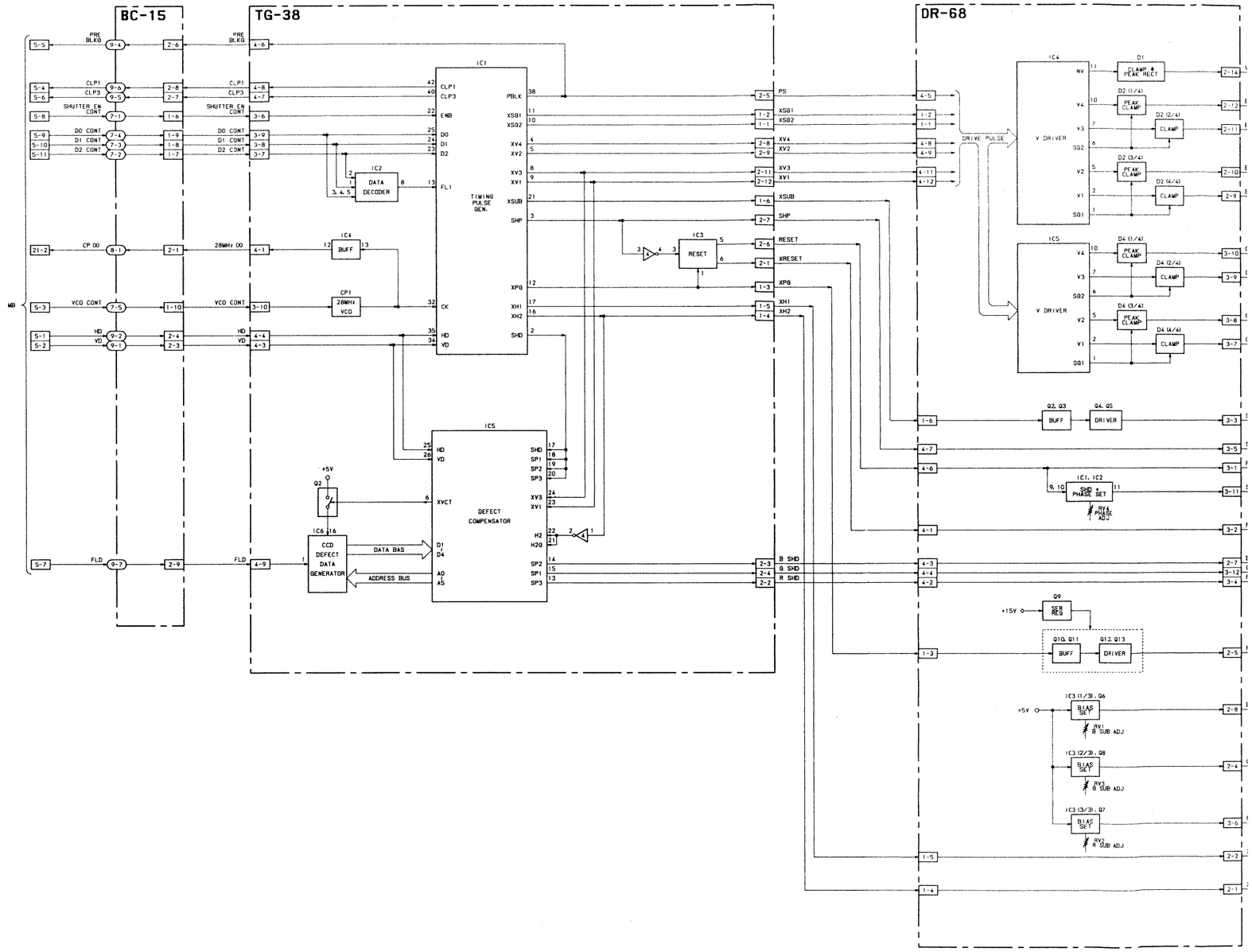




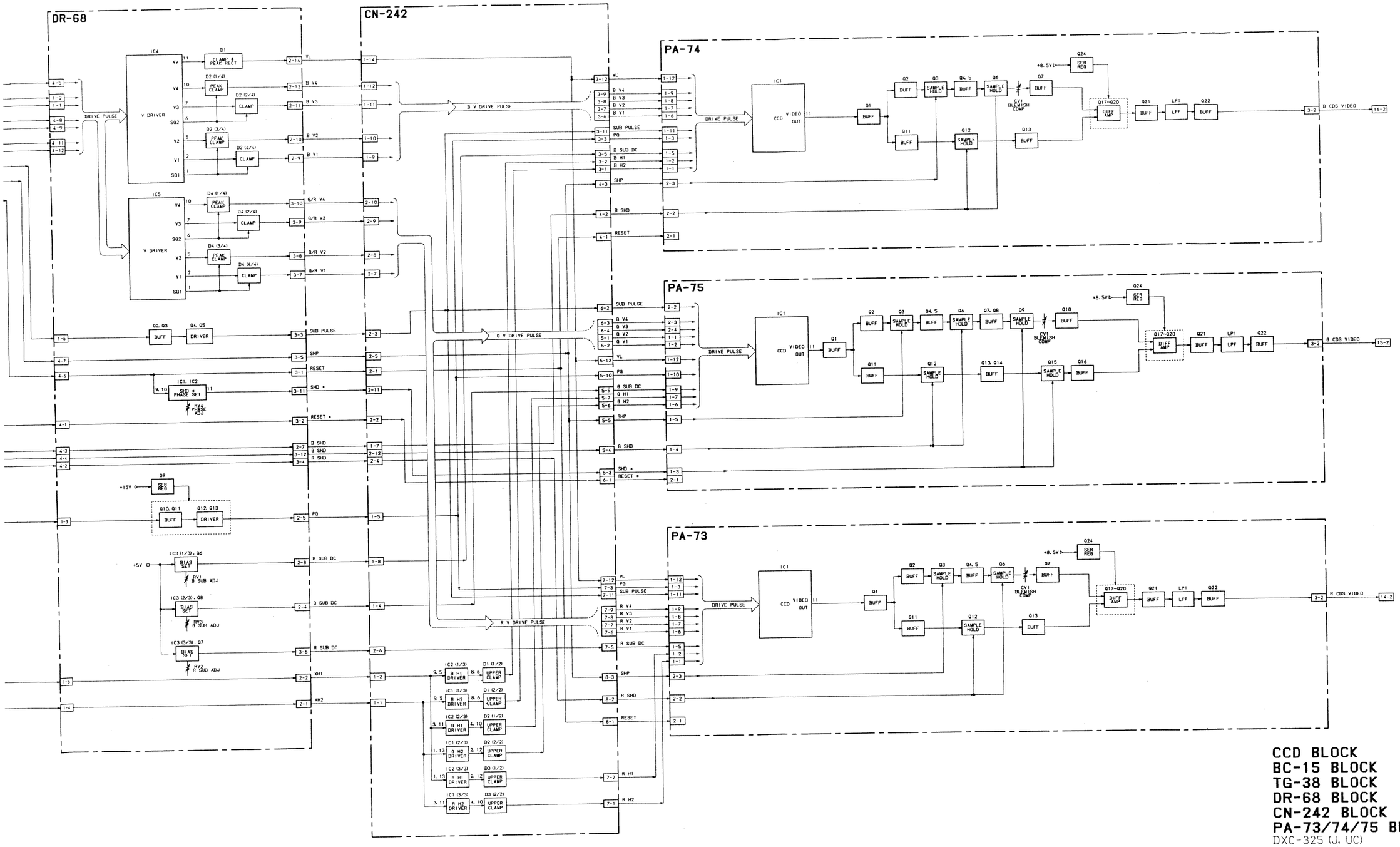
OVERALL BLOCK

DXC-325 (UC, J)
DXC-325P (EK)

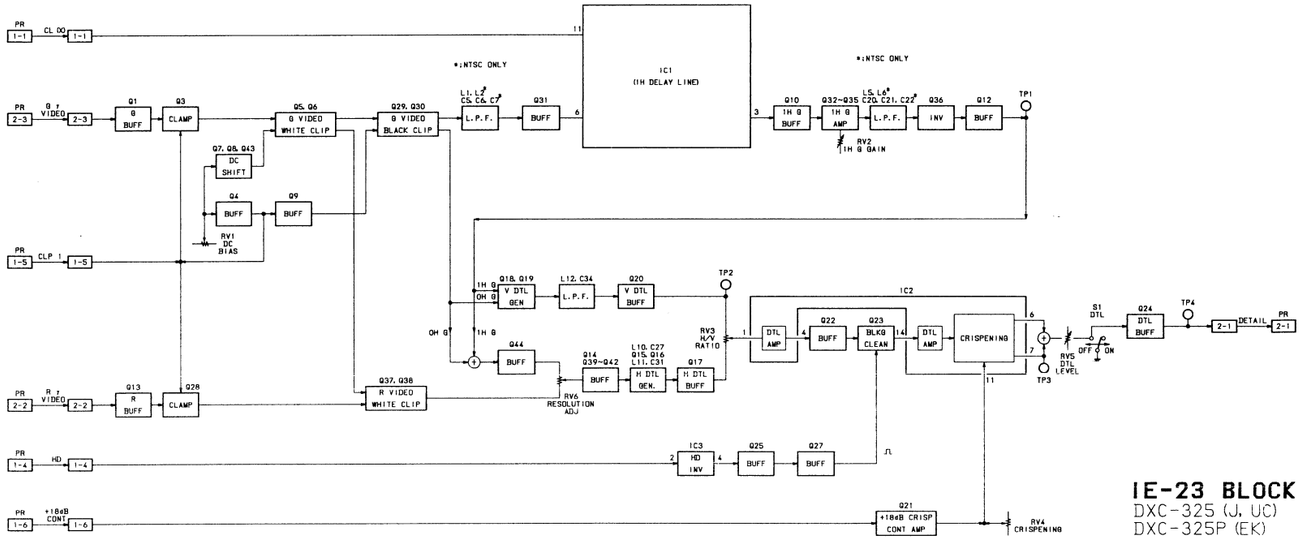
CCD BLOCK



B-DXC325-CCD/BLOCK

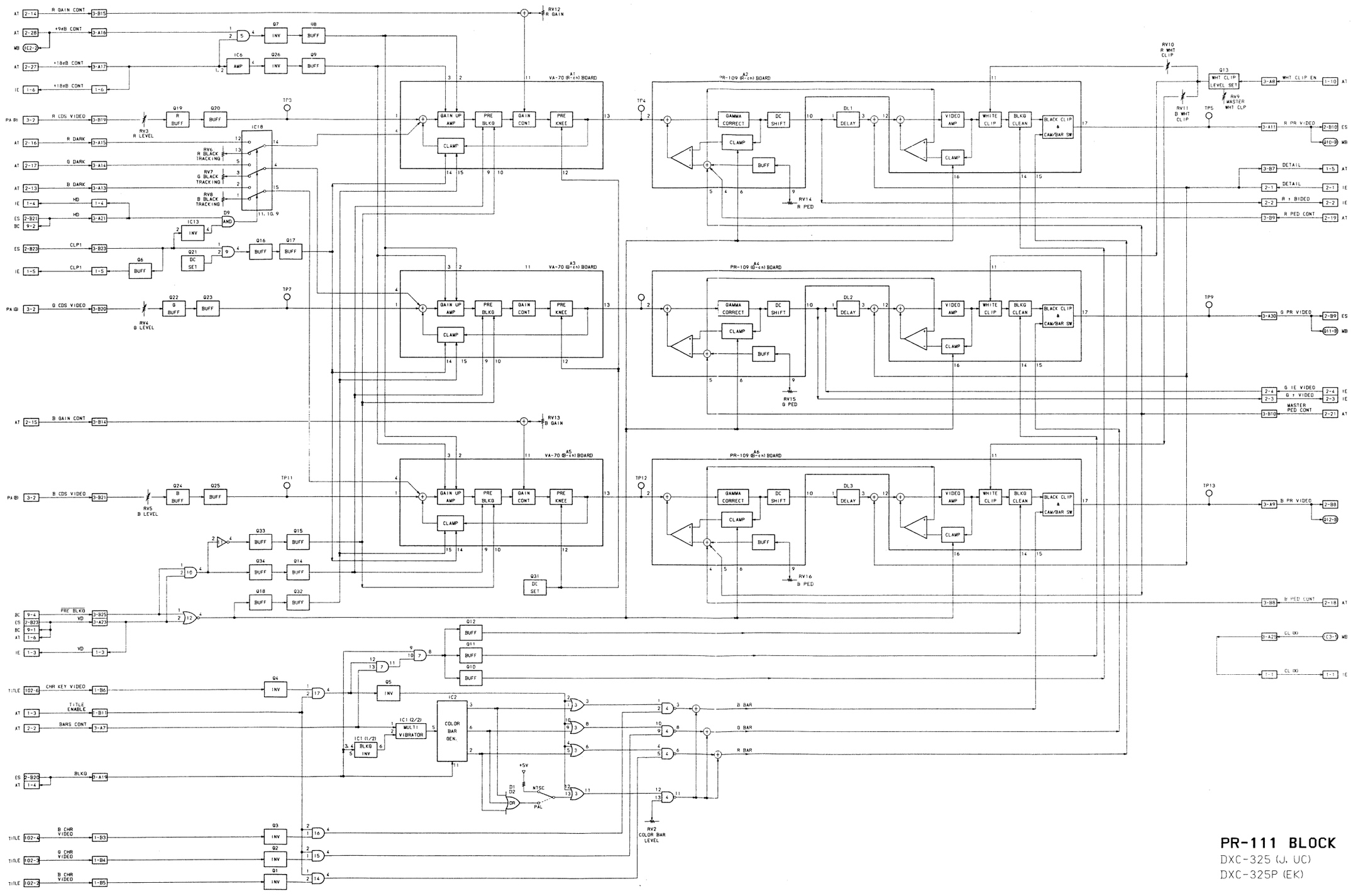


CCD BLOCK
BC-15 BLOCK
TG-38 BLOCK
DR-68 BLOCK
CN-242 BLOCK
PA-73/74/75 BLOCK
DXC-325 (J, UC)
DXC-325P (EK)

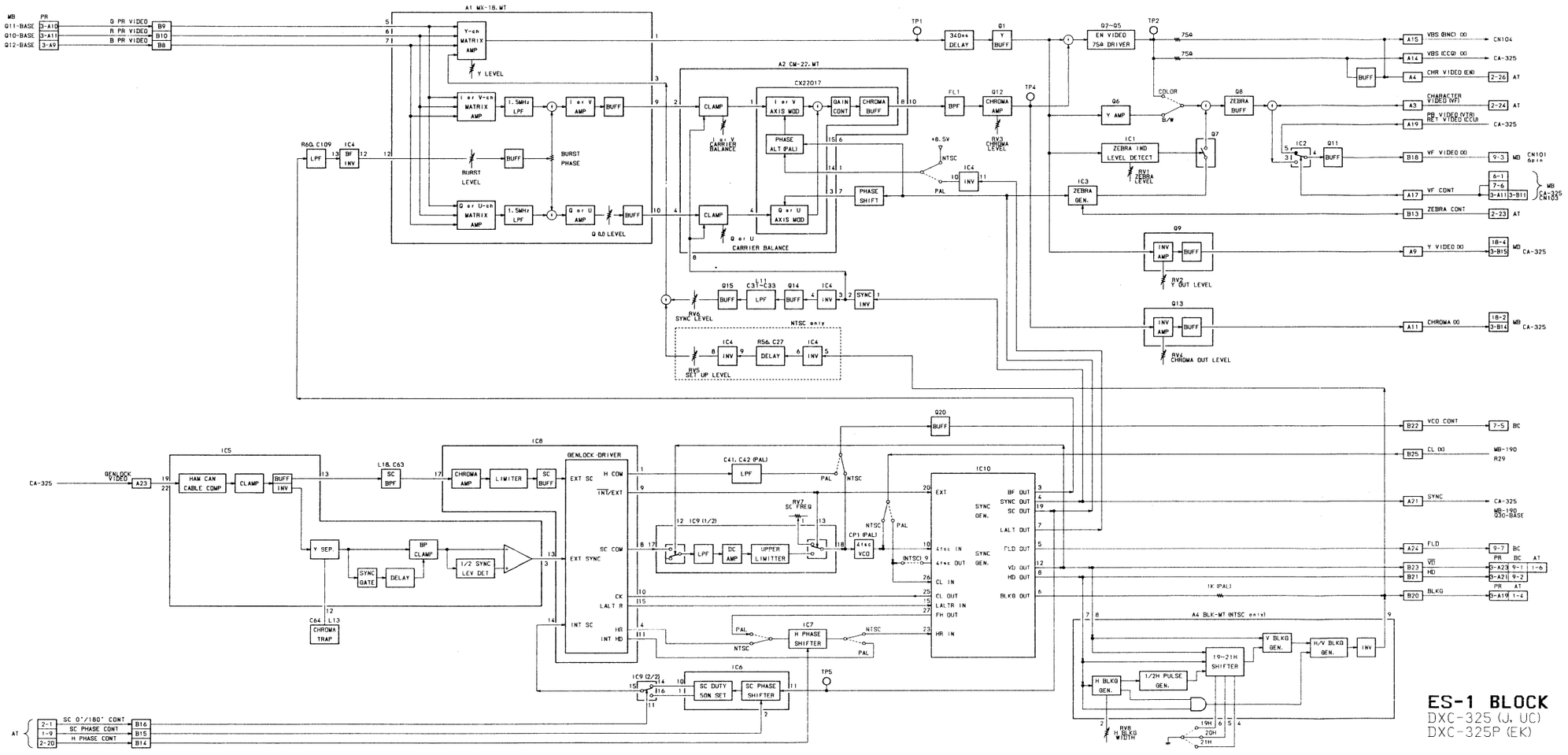


IE-23 BLOCK

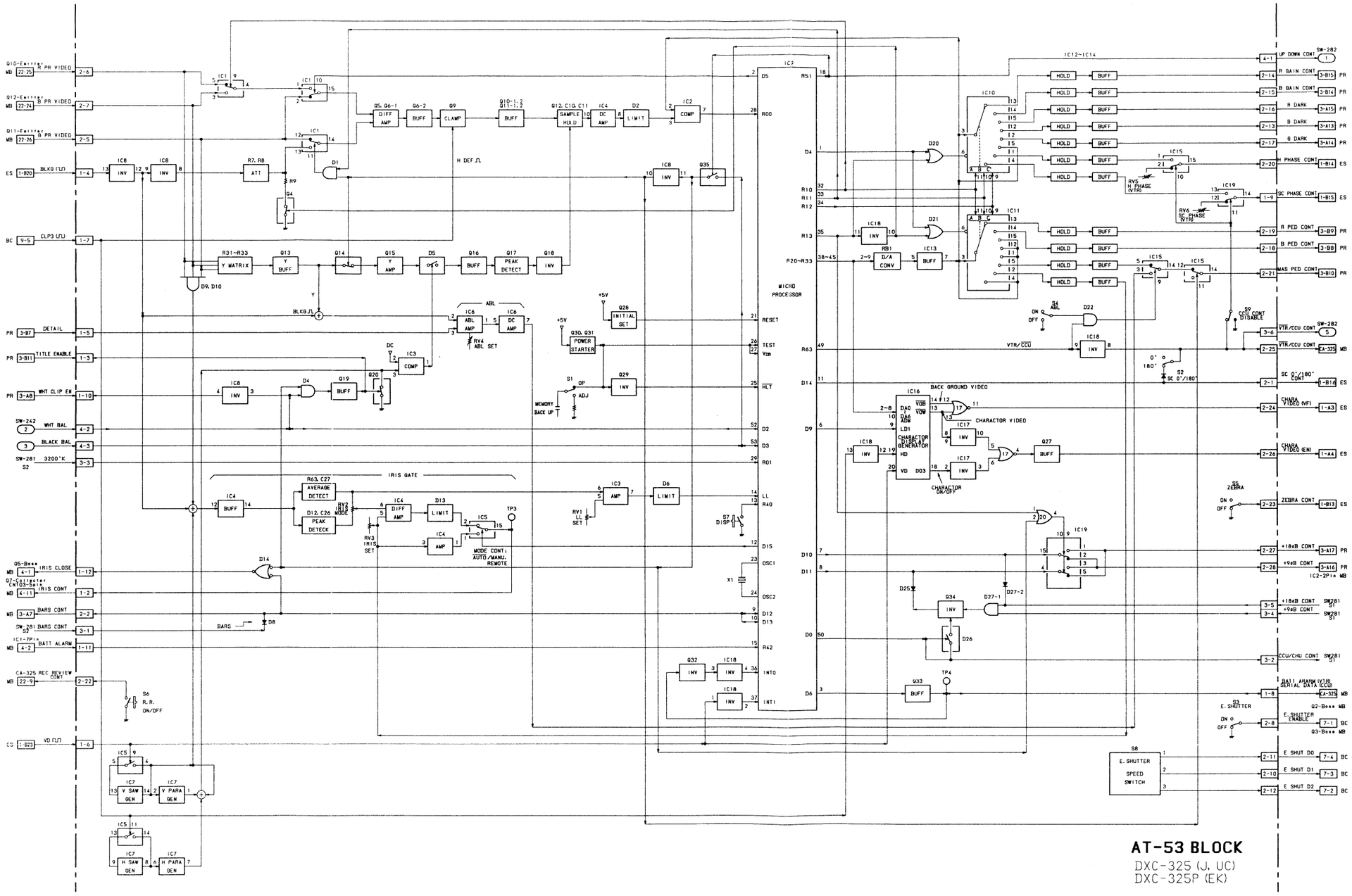
DXC-325 (J, UC)
DXC-325P (EK)



PR-111 BLOCK
DXC-325 (J, UC)
DXC-325P (EK)



ES-1 BLOCK
DXC-325 (J, UC)
DXC-325P (EK)



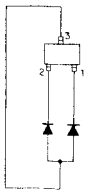
AT-53 BLOCK

DXC-325 (J, UC)
DXC-325P (EK)

SECTION B
SEMICONDUCTOR

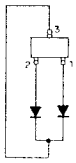
The circuit diagram of is obtained from the IC data book published by the manufacturer.

TOP VIEW (SCALE 4/1)

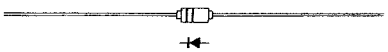


1S2835

TOP VIEW (SCALE 4/1)

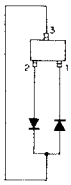


1S2837

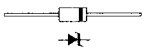


1S955

TOP VIEW (SCALE 4/1)

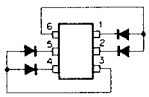


1SS123



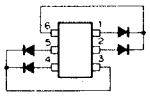
HZ ?ALL
HZ ?BLL

TOP VIEW



MA122

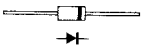
TOP VIEW



MA123

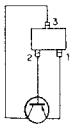
TOP VIEW (SCALE 4/1)

RD ? ?MB ?



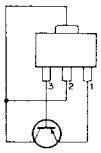
1SS119

TOP VIEW (SCALE 4/1)



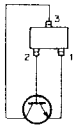
2SA1226
2SA1462
2SA812

TOP VIEW (SCALE 4/1)



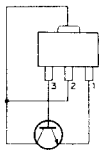
2SB798

TOP VIEW (SCALE 4/1)



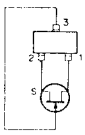
2SC1623
2SC2757
NTM2369

TOP VIEW (SCALE 4/1)

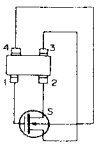


2SD999

TOP VIEW (SCALE 4/1)

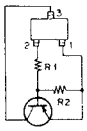


2SK94



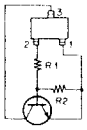
3SK163

TOP VIEW (SCALE 4/1)

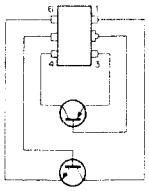


DTC114YK (R1 = 10K, R2 = 47K)

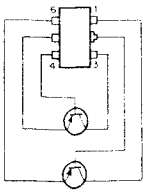
TOP VIEW (SCALE 4/1)



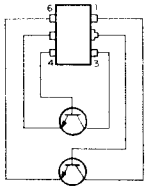
DTA114YK (R1 = 10K, R2 = 47K)



XN4608



XN6401
XN6435

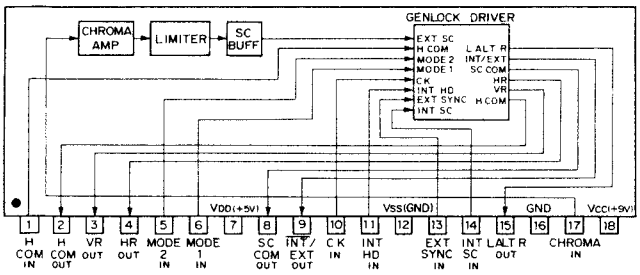


XN6501

BX1340 (SONY)

SC LIMITER AND GENLOCK DRIVER

– REAR VIEW –



MODE SELECTION

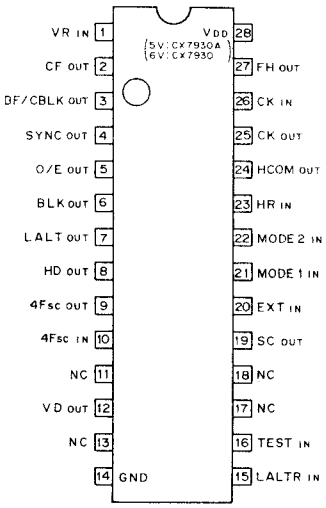
MODE 1	MODE 2	MODE
1	1	NTSC
0	0	PAL

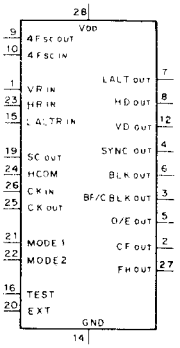
0 ; LOW LEVEL
1 ; HIGH LEVEL

CX7930A (SONY) FLAT PACKAGE

C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)

– TOP VIEW –





O/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910 FH
PAL	1135 FH+2Fv	908 FH
PALM	909 FH	910 FH
SECAM	———	908 FH

INPUTS MODE 1	INPUTS MODE 2	SYSTEM
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

0 ; LOW LEVEL (GND)

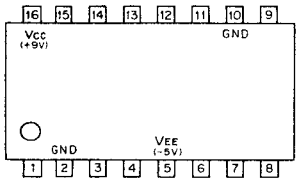
INPUTS EXT	INPUTS TEST	FUNCTION
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

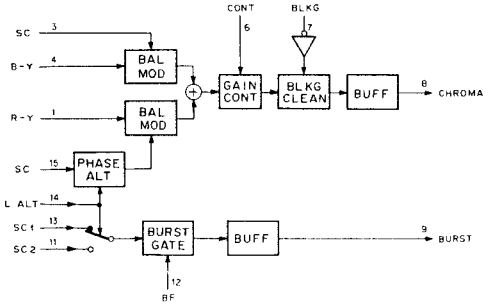
TEST "0": OPEN

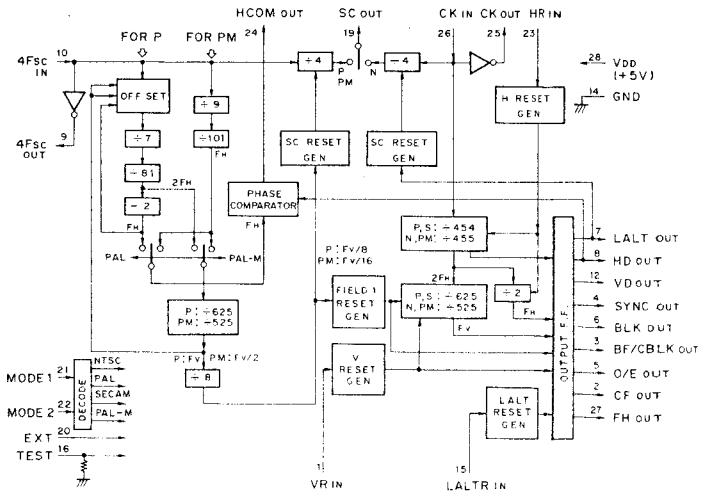
CX22017 (SONY)

VIDEO SIGNAL PROCESSOR

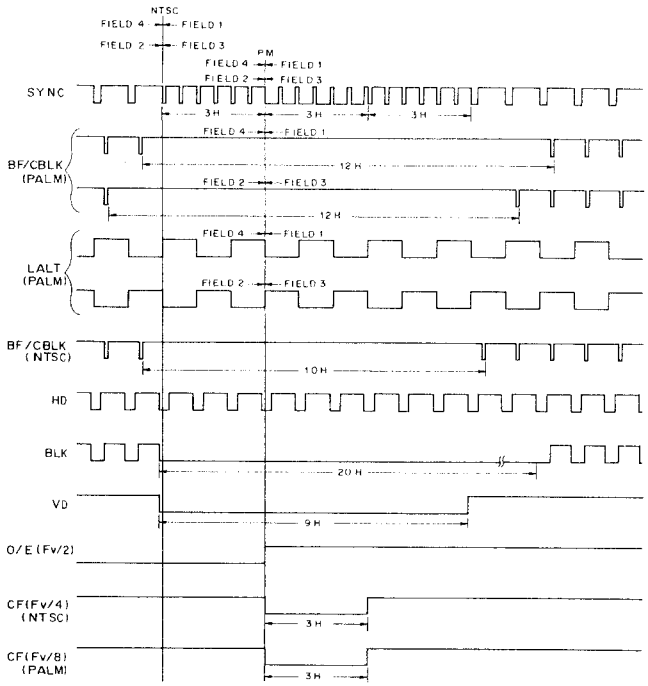
– TOP VIEW –



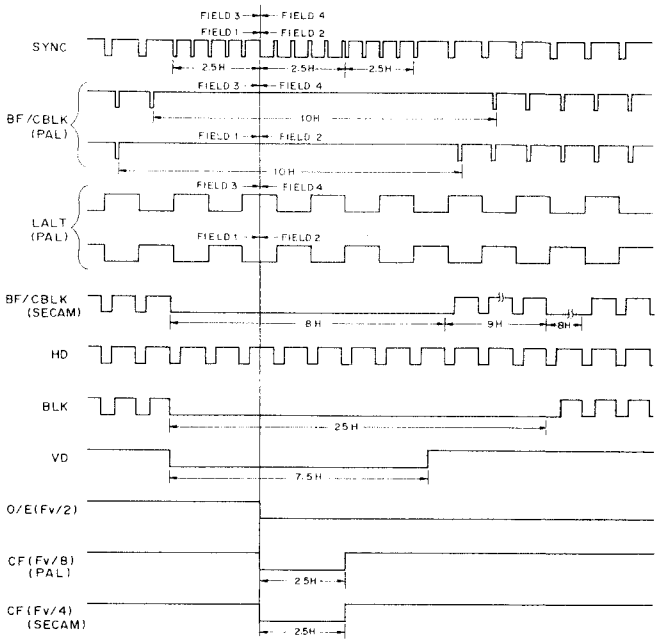




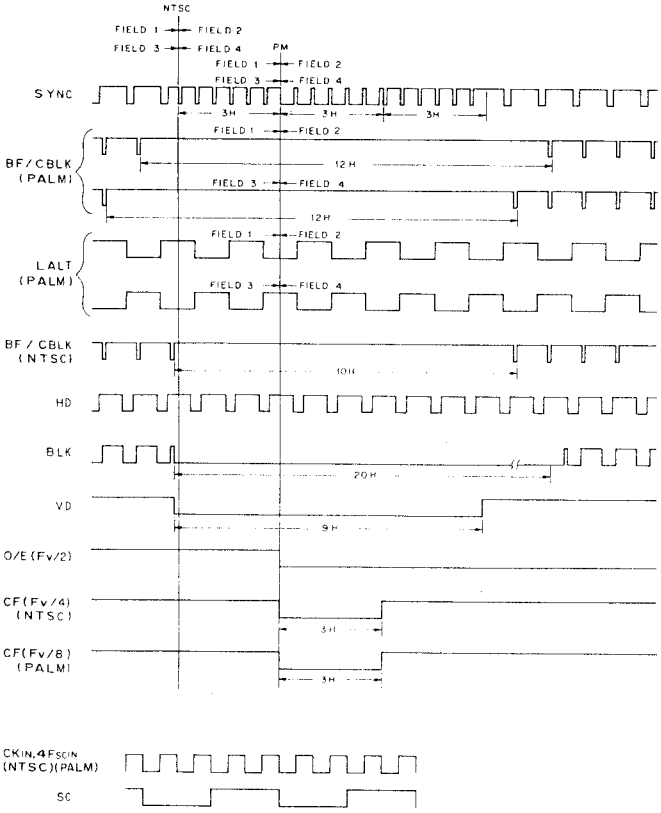
NTSC, PAL-M (FIELD 1,3)



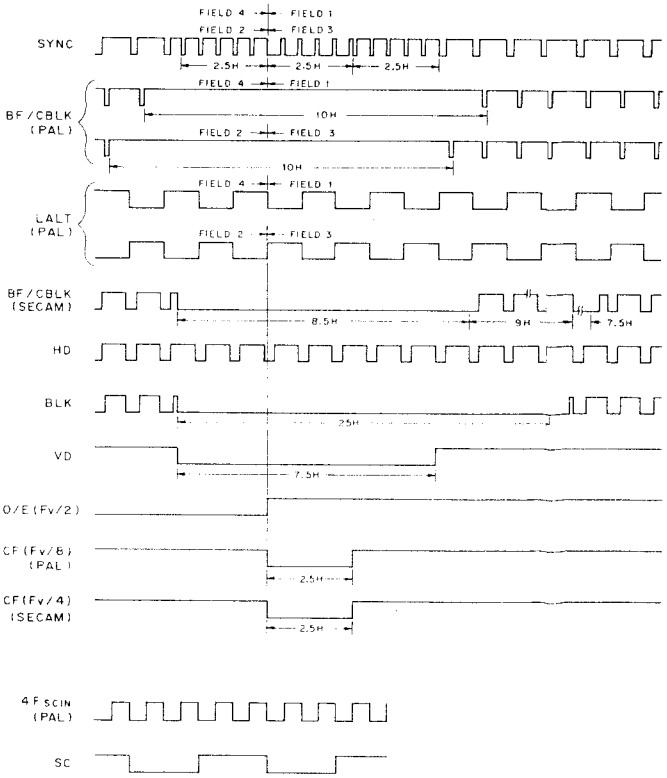
PAL, SECAM (FIELD 4,2)



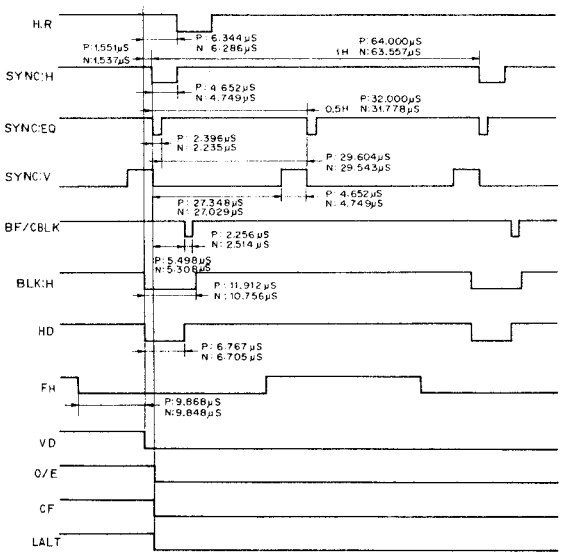
NTSC, PAL-M (FIELD 2,4)



PAL, SECAM (FIELD 1,3)

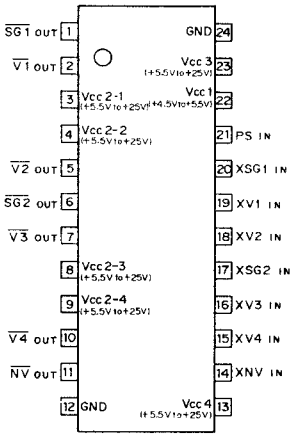


P: PAL, SECAM
N: NTSC, PALM



CXA1065M (SONY) FLAT PACKAGE

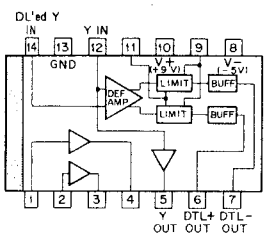
INVERTING DRIVER FOR CCD CLOCK WITH POWER SAVE
– TOP VIEW –

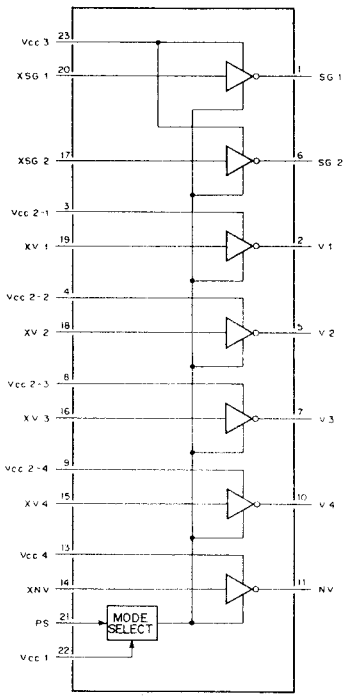


XV1 - XV4 ; VERTICAL REGISTER TRANSMISSION CLOCK INPUT
$\overline{V1}$ - $\overline{V4}$; VERTICAL REGISTER TRANSMISSION CLOCK OUTPUT
XSG1, XSG2 ; SENSER GATE PULSE INPUT
$\overline{SG1}$, $\overline{SG2}$; SENSER GATE PULSE OUTPUT
XNV ; DRIVER INPUT
$\overline{NV}$; DRIVER OUTPUT
PS ; POWER SAVE INPUT
Vcc 1 ; BIAS VOLTAGE
Vcc 2-1 ; $\overline{V1}$ OUTPUT PULSE VOLTAGE
Vcc 2-2 ; $\overline{V2}$ OUTPUT PULSE VOLTAGE
Vcc 2-3 ; $\overline{V3}$ OUTPUT PULSE VOLTAGE
Vcc 2-4 ; $\overline{V4}$ OUTPUT PULSE VOLTAGE
Vcc 3 ; $\overline{SG1}$, $\overline{SG2}$ OUTPUT PULSE VOLTAGE
Vcc 4 ; $\overline{NV}$ OUTPUT PULSE VOLTAGE

CX815 (SONY)

DTL AMPLIFIER
– TOP VIEW –

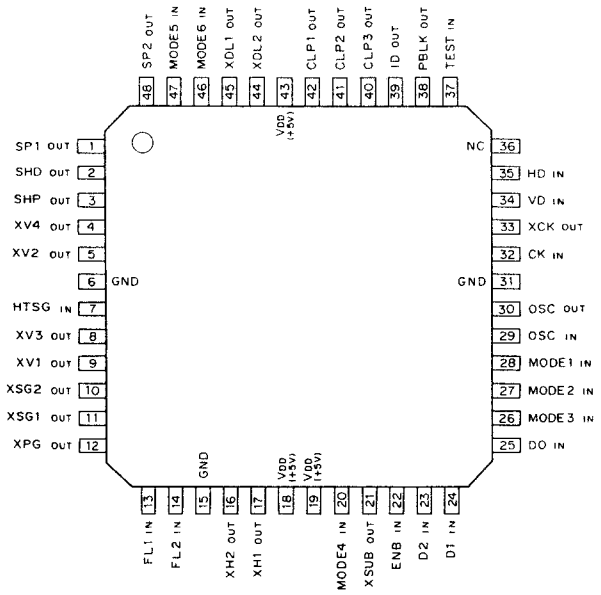


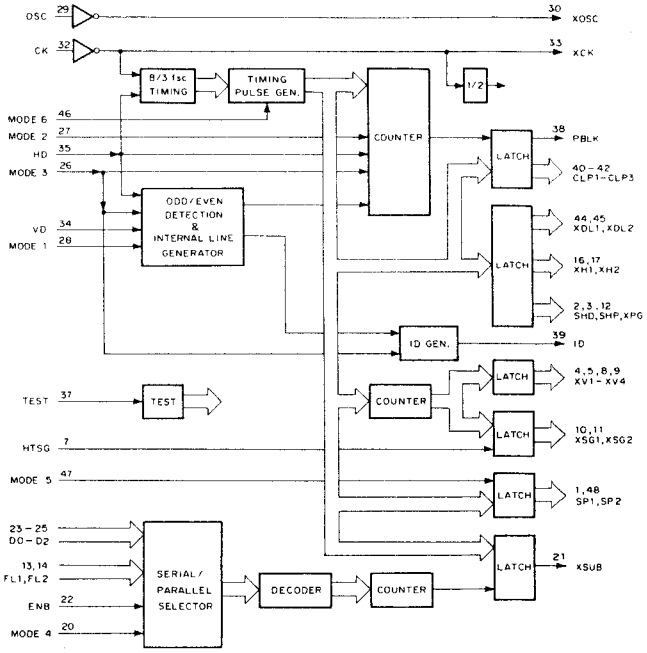


CXD1155Q (SONY) FLAT PACKAGE

C-MOS TIMING PULSE GENERATOR FOR CCD CAMERA

– TOP VIEW –





MODE SELECTION

	H	L
FL1	NORMAL	FLICKERLESS
FL2	50Hz	60Hz
MODE1	B/W	COLOR
MODE2	FRAME	FIELD
MODE3	CCIR	NTSC
MODE4	PARALLEL INPUT	SERIAL INPUT

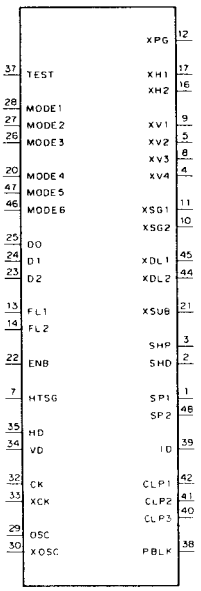
H ; VDD
L ; GND

• MODE5, MODE6 ; SEE TIMING CHART

PARALLEL INPUT MODE (MODE4="H")

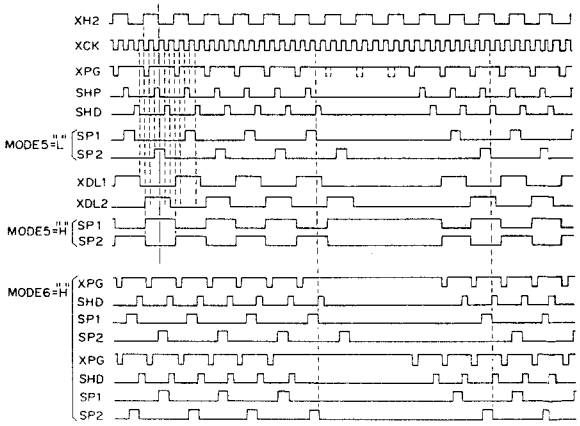
INPUTS							SHUTTER
MODE4	ENB	FL1	FL2	D2	D1	D0	SPEED(S)
1	1	1	X	0	0	0	1/60
1	1	1	X	0	0	1	1/125
1	1	1	X	0	1	0	1/250
1	1	1	X	0	1	1	1/500
1	1	1	X	1	0	0	1/1000
1	1	1	X	1	0	1	1/2000
1	1	1	X	1	1	0	1/4000
1	1	1	X	1	1	1	1/10000
X	1	0	1	X	X	X	1/100
X	1	0	0	X	X	X	1/120
X	0	X	X	X	X	X	NORMAL

1 ; HIGH LEVEL
0 ; LOW LEVEL
X ; DON'T CARE

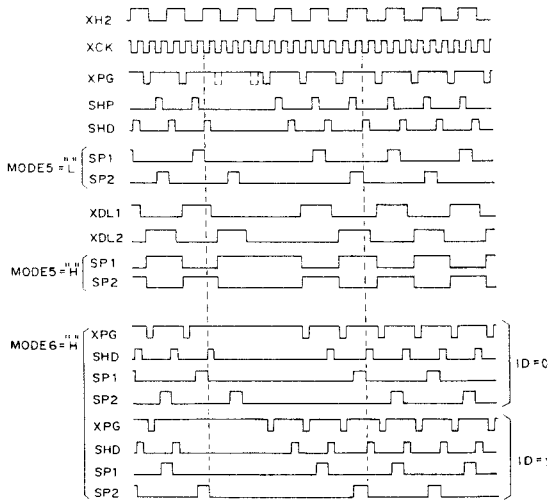


ENB ; ELECTRONIC SHUTTER ENABLE INPUT
D0-D2 ; SHUTTER SPEED MODE SIGNAL INPUT
SHD ; DATA SAMPLE HOLD PULSE
SHP ; PRE-CHARGE LEVEL SAMPLE HOLD PULSE
XV1-XV4 ; VERTICAL REGISTER TRANSMISSION CLOCK OUTPUT
XH1,XH2 ; HORIZONTAL REGISTER TRANSMISSION CLOCK OUTPUT
XSG1,XSG2 ; SENSOR GATE PULSE OUTPUT
XDL1,XDL2 ; DELAY LINE CONTROL PULSE OUTPUT
XPG ; PRE-CHARGE GATE PULSE OUTPUT
SP1,SP2 ; COLOR SEPARATION PULSE OUTPUT
CLP1-CLP3 ; CLAMP PULSE OUTPUT
ID ; LINE DISCRIMINATION PULSE OUTPUT
HTSG ; READ OUT STOP SIGNAL INPUT
TEST ; TEST MODE SIGNAL INPUT
OSC ; OSCILLATING SIGNAL INPUT
XOSC ; INVERTED OSCILATING SIGNAL OUTPUT
CK ; CLOCK INPUT
XCK ; INVERTED CLOCK OUTPUT
PBLK ; BLANKING CLEANING PULSE
XSUB ; ELECTRIC CHARGE DISCHARGING PULSE OUTPUT
HD ; HORIZONTAL DRIVE INPUT
VD ; VERTICAL DRIVE INPUT

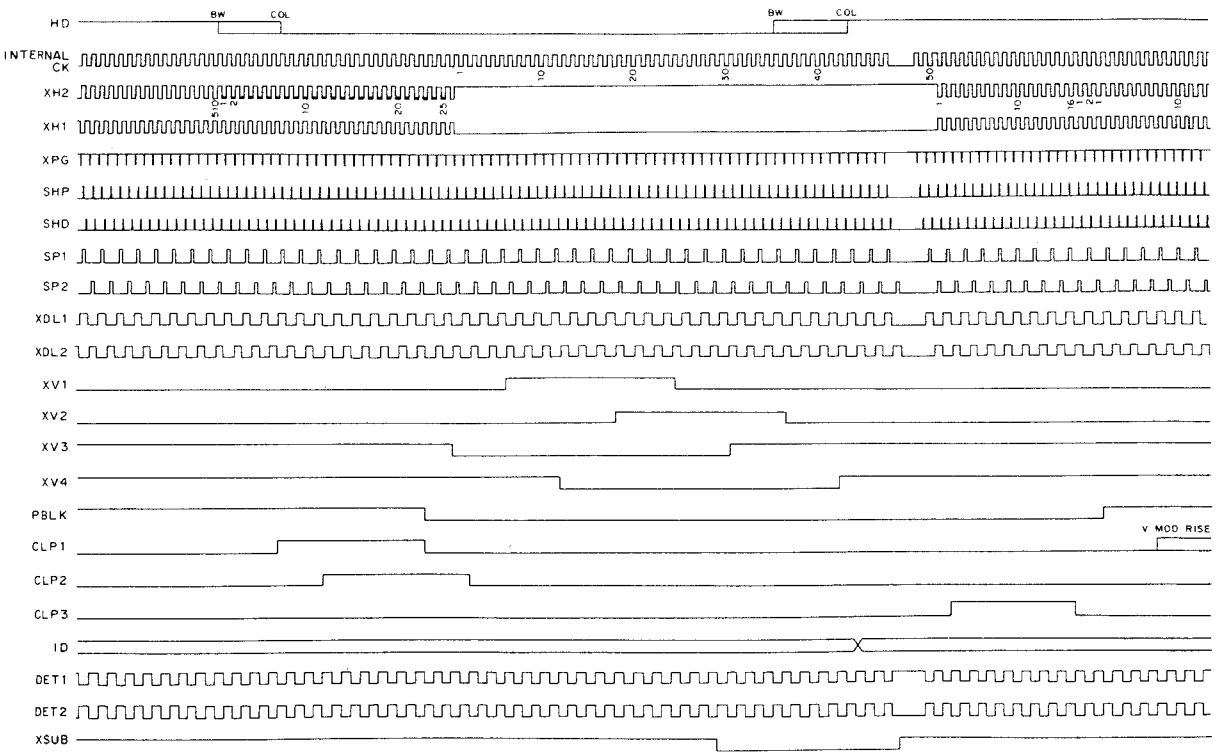
HIGH SPEED SYSTEM TIMING
NTSC



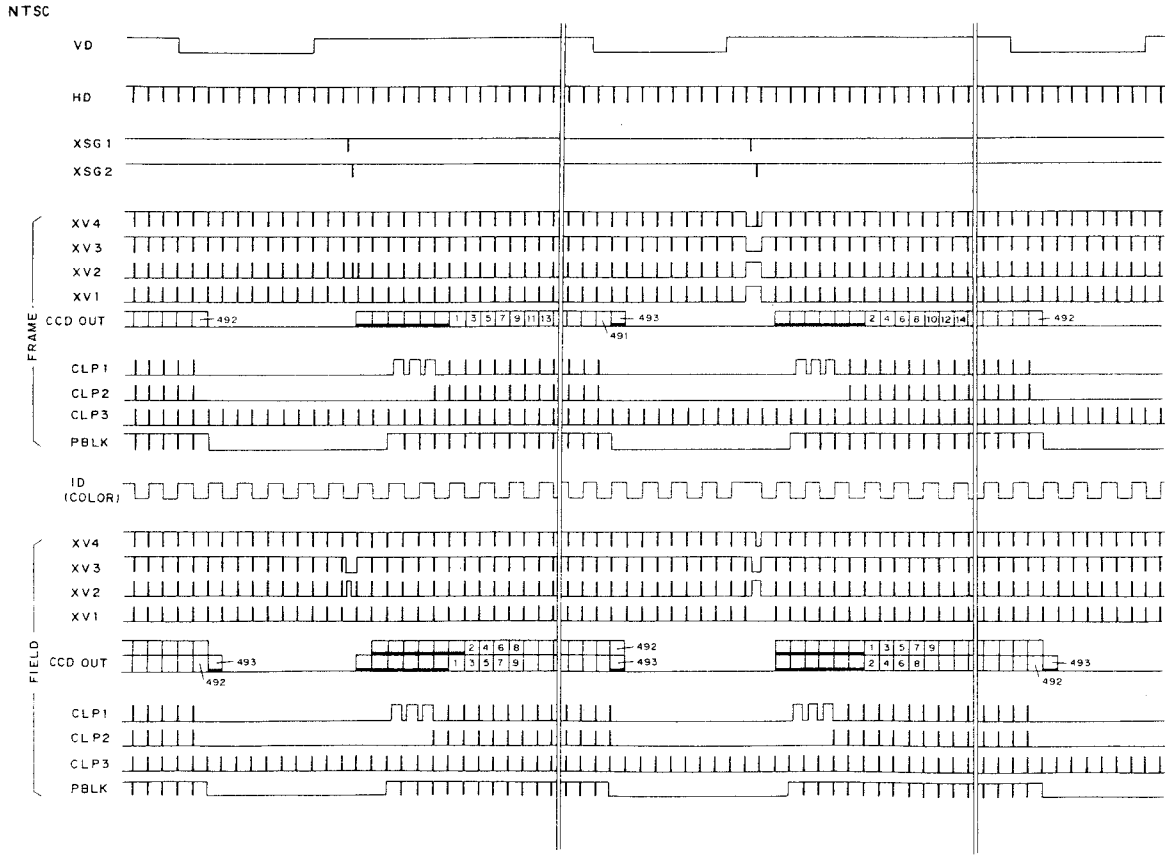
HIGH SPEED SYSTEM TIMING
CCIR



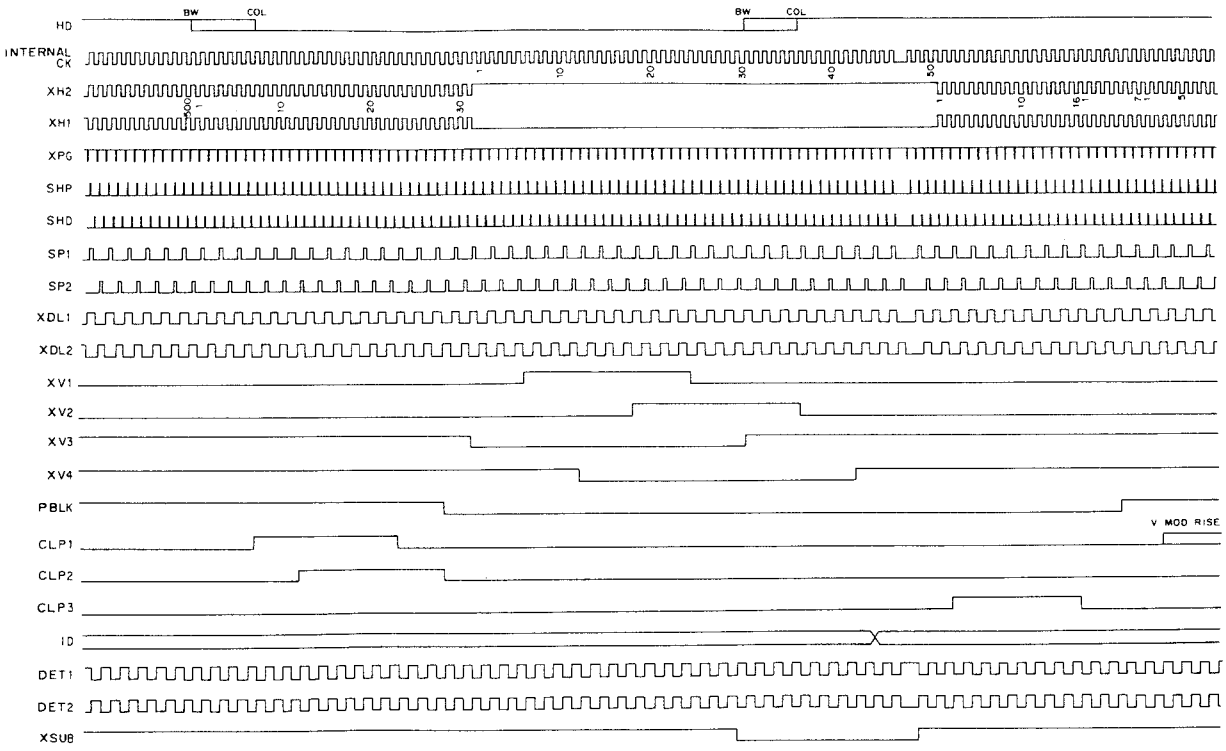
NTSC


HD
BW
COL
INTERNAL CK
XH2
XH1
XPG
SHP
SHD
SP1
SP2
XDL1
XDL2
XV1
XV2
XV3
XV4
PBLK
CLP1
CLP2
CLP3
ID
DET1
DET2
XSUB
V MOD RISE

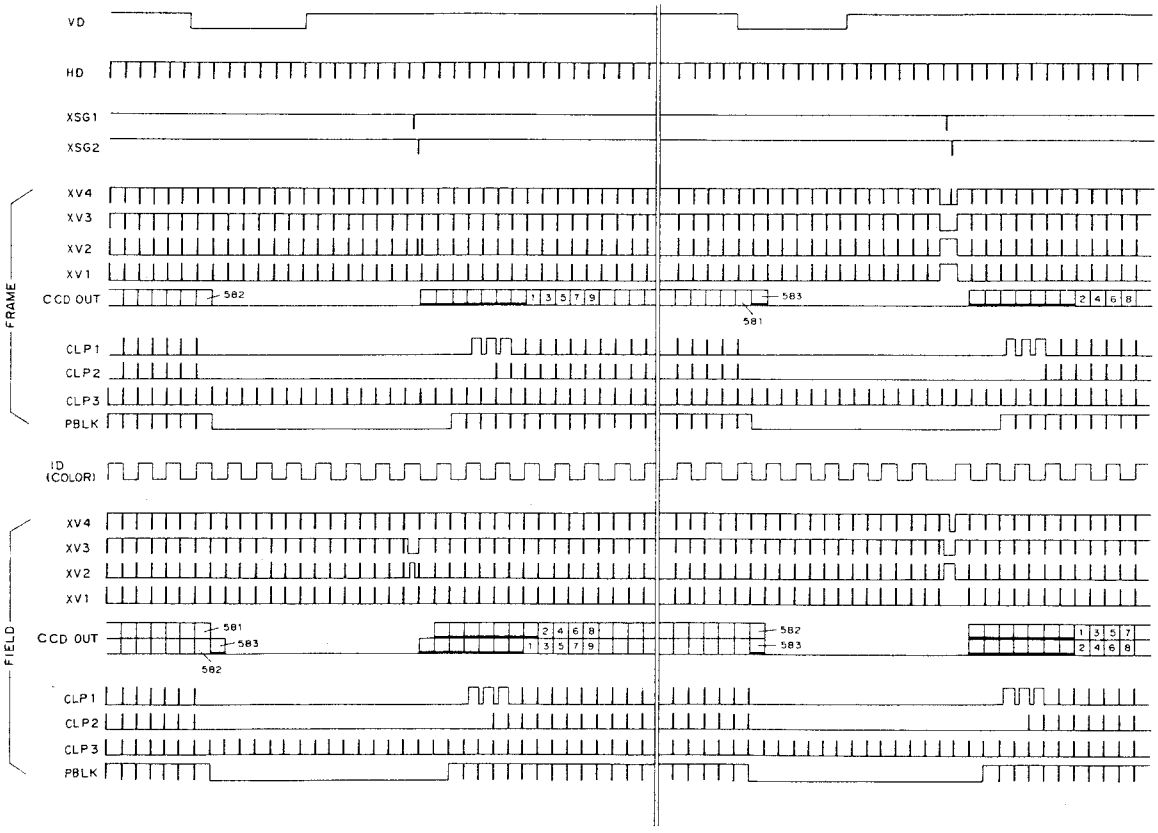
NTSC


VD
HD
XSG1
XSG2
FRAME
XV4
XV3
XV2
XV1
CCD OUT
492
493
491
CLP1
CLP2
CLP3
PBLK
ID (COLOR)
FIELD
XV4
XV3
XV2
XV1
CCD OUT
493
492
492
493
493
492
CLP1
CLP2
CLP3
PBLK

CCIR

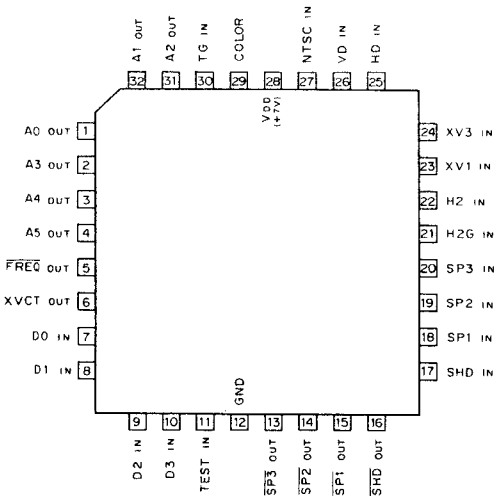

HD
BW
COL
INTERNAL CK
XH2
XH1
XPG
SHP
SHD
SP1
SP2
XDL1
XDL2
XV1
XV2
XV3
XV4
PBLK
V MOD RISE
CLP1
CLP2
CLP3
ID
DET1
DET2
XSUB

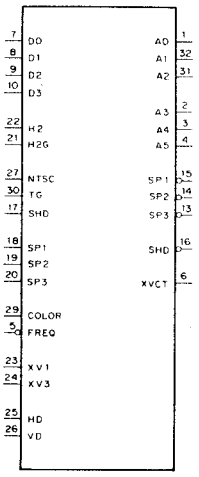
CCIR

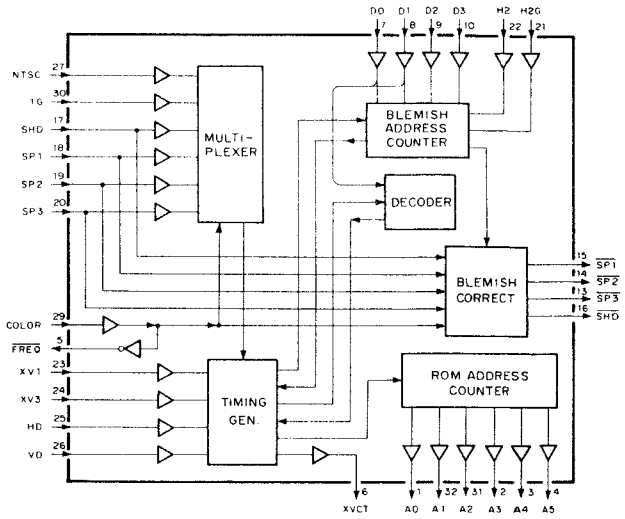

VD
HD
XSG1
XSG2
FRAME
XV4
XV3
XV2
XV1
CCD OUT
582
581
583
CLP1
CLP2
CLP3
PBLK
ID (COLOR)
FIELD

CXD1251Q (SONY)

C-MOS BLEMISH CORRECTOR FOR CCD IMAGER
– TOP VIEW –







MODE SELECTION

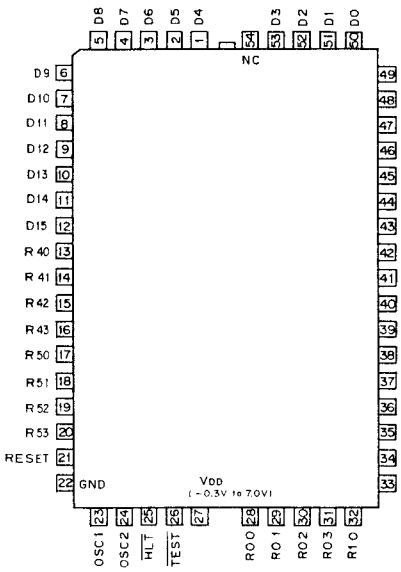
	1	0
NTSC	CCIR MODE	NTSC MODE
COLOR	B/W MODE	COLOR MODE
TG	IC FOR TG: CXD1149 USE	IC FOR TG: CXD1155/1156 USE

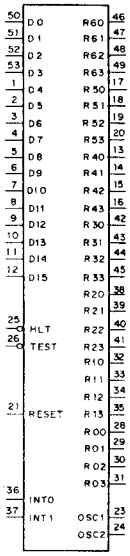
1 ; HIGH LEVEL
0 ; LOW LEVEL

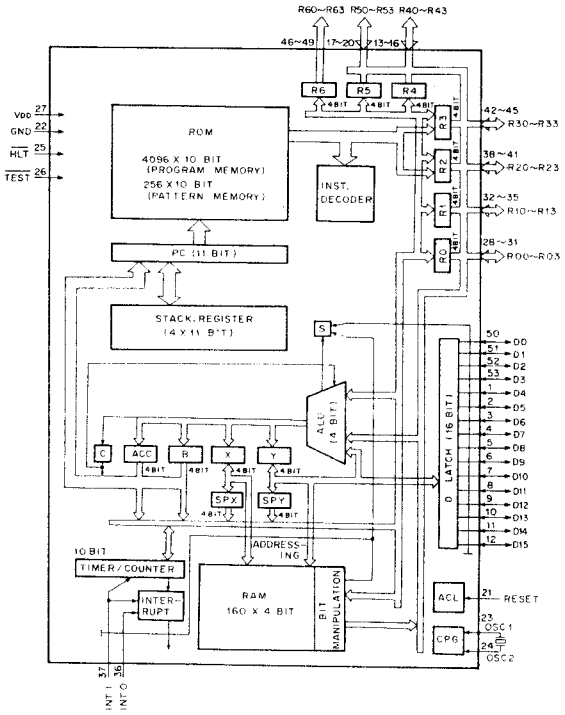
D1-D4 ; EXTERNAL ROM DATA INPUT
A0-A5 ; EXTERNAL ROM ADDRESS OUTPUT
$\overline{SP1}$-$\overline{SP3}$; SAMPLE HOLD PULSE FOR BLEMISH CORRECTION
$\overline{SHD}$; DATA SAMPLE HOLD PULSE
H2,H2G ; CLOCK INPUT FOR HORIZONTAL REGISTER TRANSMISSION
XV1,XV3 ; CLOCK INPUT FOR VERTICAL REGISTER TRANSMISSION
XVCT ; POWER CONTROL OUTPUT FOR EXTERNAL ROM
HD ; HORIZONTAL DRIVE INPUT
VD ; VERTICAL DRIVE INPUT

HD44860B42 (HITACHI) FLAT PACKAGE

C-MOS 4-BIT MICROPROCESSOR
– TOP VIEW –







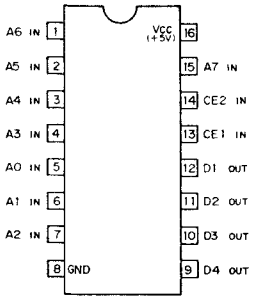
D0-D15 ; DATA INPUT/OUTPUT
R00-R03;
R10-R13;
R20-R23;
R30-R33;
R40-R43;
R50-R53;
} REGIST INPUT/OUTPUT
R60-R63; REGIST OUTPUT

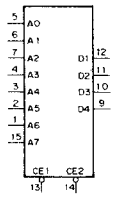
RESET ; RESET INPUT
OSC1,OSC2 ; OSCILLATOR INPUT
INT0,INT1 ; INTERRUPT INPUT
TEST ; TEST INPUT
HLT ; HALT INPUT

MB7114LPF (FUJITSU) (ACCESS TIME = 50nS) FLAT PACKAGE

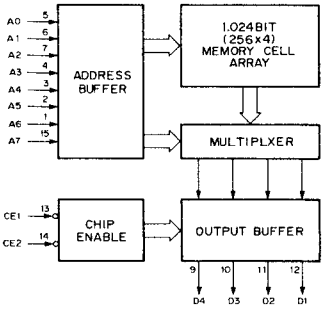
1024-BIT (256x4) PROM

– TOP VIEW –





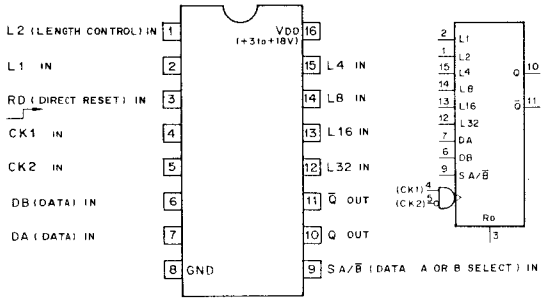
A0–A7 ;ADDRESS INPUTS
D1–D4 ;DATA OUTPUTS
CE1,CE2 ;CHIP ENABLE INPUTS



MC14557BF (MOTOROLA) FLAT PACKAGE

C-MOS 1-TO-64-BIT VARIABLE LENGTH SHIFT REGISTER

– TOP VIEW –



LENGTH SELECT TRUTH TABLE

L32	L16	L8	L4	L2	L1	REGISTER LENGTH
0	0	0	0	0	0	1 - BIT
0	0	0	0	0	1	2 - BIT
0	0	0	0	1	0	3 - BIT
0	0	0	0	1	1	4 - BIT
0	0	0	1	0	0	5 - BIT
⋮	⋮	⋮	⋮	⋮	⋮	⋮
1	1	1	1	0	0	61 - BIT
1	1	1	1	0	1	62 - BIT
1	1	1	1	1	0	63 - BIT
1	1	1	1	1	1	64 - BIT

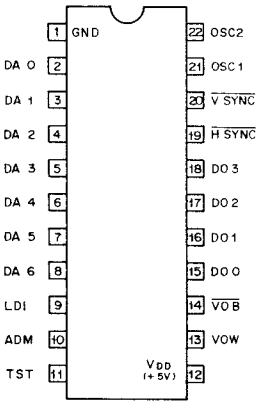
INPUTS				OUTPUT
RD	SA/B	CK1	CK2	Q
0	0	↓	0	DB
0	1	↓	0	DA
0	0	1	↓	DB
0	1	1	↓	DA
1	X	X	X	0

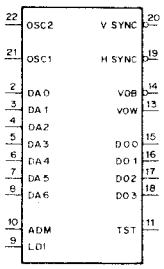
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MN1237AD (MATSUSHITA)

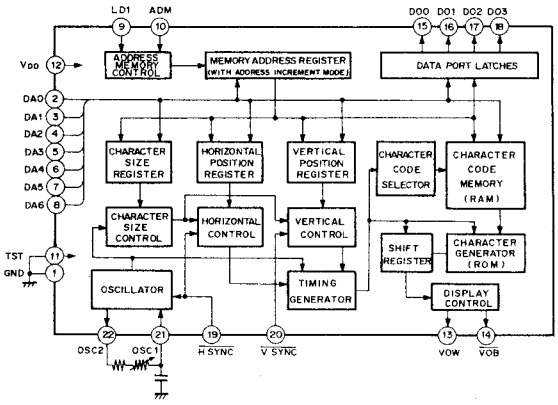
C-MOS INDICATES DATA OF 60 CHARACTERS CRT INTERFACE

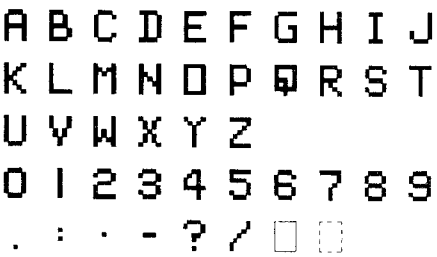
– TOP VIEW –





ADM	; ADDRESS MODE SELECT IN
DA0～DA6	; DATA BUS INPUT
DO0～DO3	; GENERAL OUTPUT
H SYNC	; H SYNC INPUT
LDI	; STROBE PULSE INPUT
OSC1,2	; OSC
TST	; TEST
VOB	; BACKGROUND OUTPUT
VOW	; CHARACTERS OUTPUT
V SYNC	; V SYNC INPUT

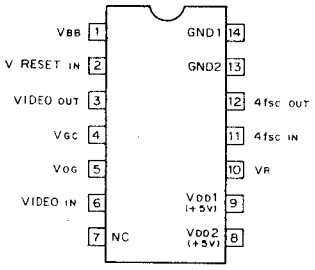


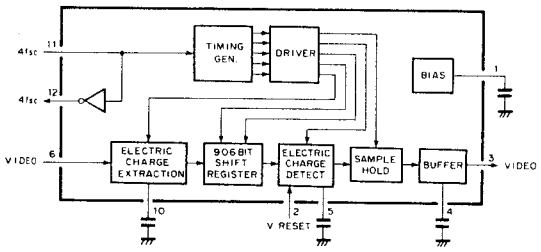


MN3801 (MATSUSHITA)

C-MOS CCD 1H DELAY LINE FOR NTSC

– TOP VIEW –

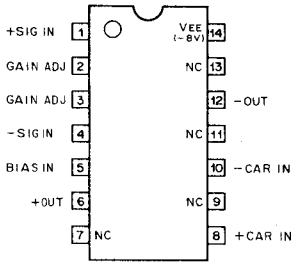


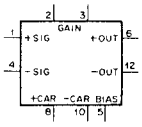


NJM1496M (JRC) FLAT PACKAGE

BALANCED MODULATOR/DEMODULATOR

– TOP VIEW –

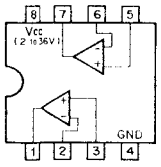




NJM2903M (JRC) FLAT PACKAGE

OPERATIONAL AMPLIFIER

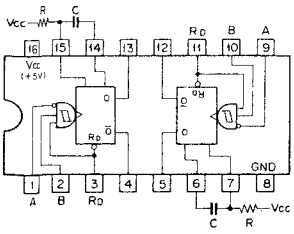
– TOP VIEW –



SN74LS221NS (TI) FLAT PACKAGE

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

– TOP VIEW –



INPUTS			OUTPUTS	
RD	A	B	Q	$\bar{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⎍
1	↓	1	⎍	⎍
↑	0	1	⎍	⎍

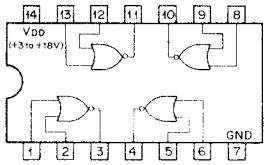
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

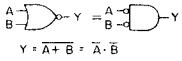
OUTPUT PULSE WIDTH ≈ 0.7CR

TC4001BF (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE

– TOP VIEW –





$Y = \overline{A+B} = \bar{A}\cdot\bar{B}$

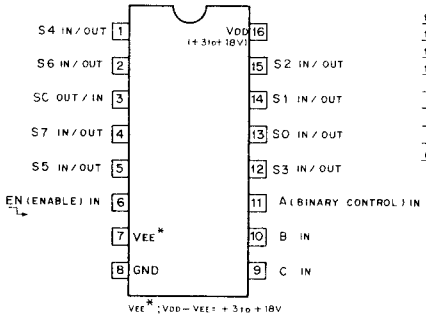
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

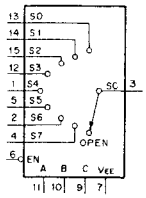
0; LOW LEVEL
1; HIGH LEVEL

TC4051BF (TOSHIBA) FLAT PACKAGE

C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER

– TOP VIEW –





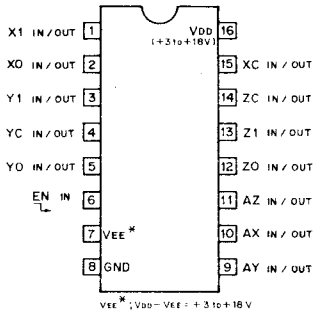
EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

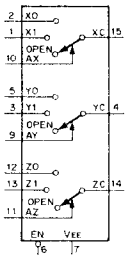
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC4053BF (TOSHIBA) FLAT PACKAGE
uPD4053BG (NEC) FLAT PACKAGE

C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER

– TOP VIEW –





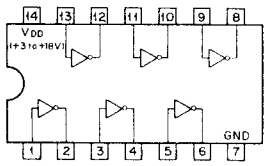
CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z)	
0	0	0
0	1	1
1	X	OPEN

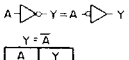
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

TC4069UBF (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER

– TOP VIEW –





$Y = \bar{A}$

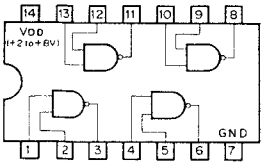
A	Y
0	1
1	0

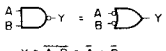
0; LOW LEVEL
1; HIGH LEVEL

TC40H000F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE

– TOP VIEW –





$Y = \overline{A \cdot B} = \bar{A} + \bar{B}$

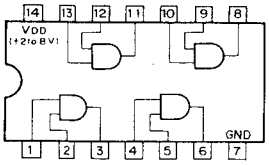
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

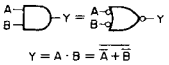
0; LOW LEVEL
1; HIGH LEVEL

TC40H008F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT POSITIVE-AND GATE

– TOP VIEW –





$Y = A \cdot B = \overline{\bar{A} + \bar{B}}$

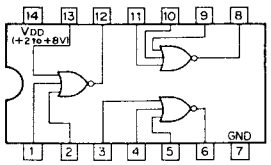
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

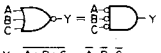
0; LOW LEVEL
1; HIGH LEVEL

TC40H027F (TOSHIBA) FLAT PACKAGE

C-MOS 3-INPUT POSITIVE-NOR GATE

– TOP VIEW –





$Y = \overline{A + B + C} = \bar{A} \cdot \bar{B} \cdot \bar{C}$

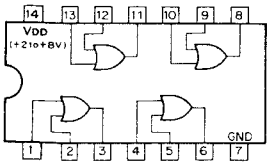
A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

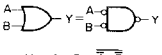
0; LOW LEVEL
1; HIGH LEVEL

TC40H032F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT POSITIVE-OR GATE

– TOP VIEW –





$Y = A + B = \overline{\bar{A} \cdot \bar{B}}$

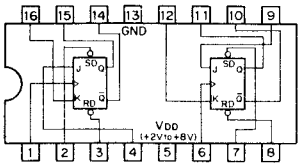
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

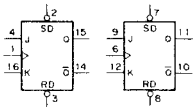
0; LOW LEVEL
1; HIGH LEVEL

TC40H076AF (TOSHIBA) FLAT PACKAGE

C-MOS HIGH SPEED EDGE TRIGGER TYPE J-K FLIP-FLOP WITH DIRECT SET/RESET

– TOP VIEW –





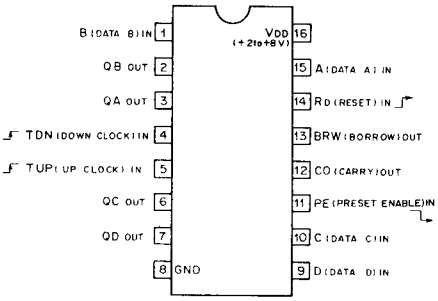
INPUTS					OUTPUTS	
RD	SD	CK	J	K	Q	$\bar{Q}$
1	0	X	X	X	1	0
0	1	X	X	X	0	1
0	0	X	X	X	1	1
1	1	↑	0	0	NO CHANGE	
1	1	↑	1	0	1	0
1	1	↑	0	1	0	1
1	1	↑	1	1	TOGGLE	
1	1	↓	X	X	NO CHANGE	

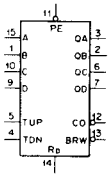
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC40H193F (TOSHIBA) FLAT PACKAGE

C-MOS PRESETTABLE SYNCHRONOUS 4-BIT UP/DOWN COUNTER

– TOP VIEW –



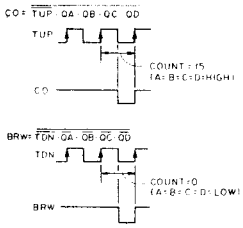


CONTROL INPUTS				MODE
RD	PE	TUP	TDN	
1	X	X	X	RESET TO ZERO
0	0	X	X	PRESET
0	1	↓	1	UP COUNT
0	1	1	↓	DOWN COUNT
0	1	1	1	NO COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

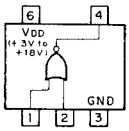
UP COUNT
DOWN COUNT

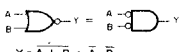


TC4S01F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE

– TOP VIEW –





$Y = \overline{A + B} = \bar{A} \cdot \bar{B}$

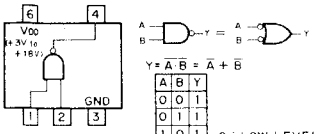
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC4S11F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT HAND GATE

– TOP VIEW –



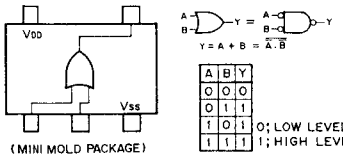
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC4S71F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT OR GATE

– TOP VIEW –



(MINI MOLD PACKAGE)

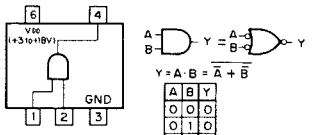
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC4S81F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE

– TOP VIEW –



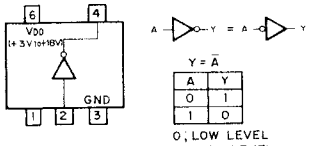
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0:LOW LEVEL
1:HIGH LEVEL

TC4SU69F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER BUFFER

– TOP VIEW –



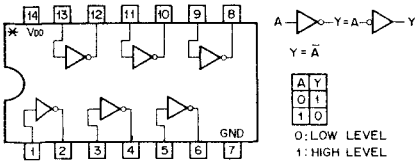
A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC74HC04F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER

– TOP VIEW –



A	Y
0	1
1	0

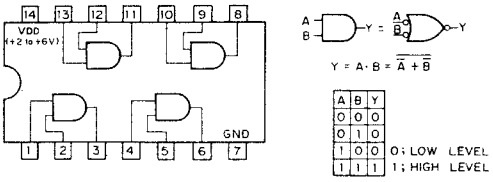
0:LOW LEVEL
1:HIGH LEVEL

* VDD HC, HCU; +2 to +6V
HCT; +5V

TC74HC08F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE

– TOP VIEW –



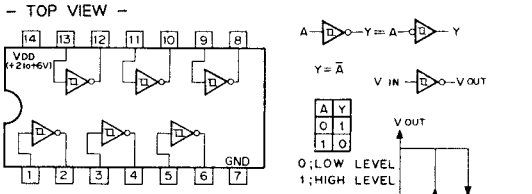
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC74HC14F (TOSHIBA) FLAT PACKAGE

C-MOS SCHMITT TRIGGER INVERTER

– TOP VIEW –



A	Y
0	1
1	0

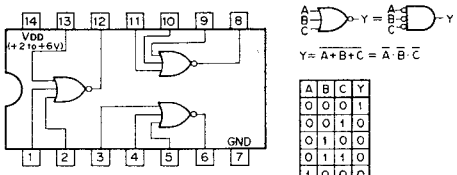
0;LOW LEVEL
1;HIGH LEVEL

VDD	VN	VP
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

TC74HC27F (TOSHIBA) FLAT PACKAGE

C-MOS 3-LINE POSITIVE-NOR GATE

– TOP VIEW –



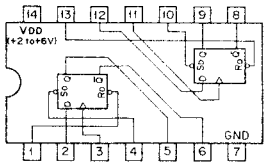
A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

0;LOW LEVEL
1;HIGH LEVEL

TC74HC74F (TOSHIBA) FLAT PACKAGE

C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET

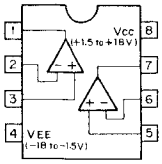
– TOP VIEW –



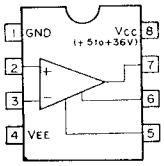
INPUTS				OUTPUTS	
Sp	Rp	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1*	1*
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE
1*;NONSTABLE

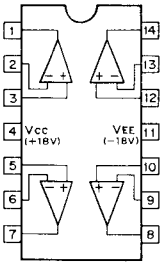
TL062ACPS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(JFET INPUT)
- TOP VIEW -



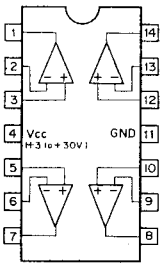
uPC311G2 (NEC) FLAT PACKAGE
VOLTAGE COMPARATOR
- TOP VIEW -



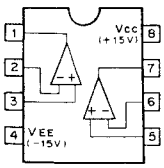
TL064CNS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(J FET-INPUT)
- TOP VIEW -



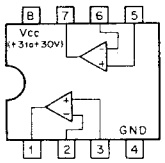
uPC324G2 (NEC) FLAT PACKAGE
QUAD. OP AMPLIFIER
- TOP VIEW -



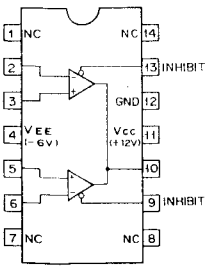
TL082CPS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(J FET-INPUT)
- TOP VIEW -



uPC358G2 (NEC) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIERS
- TOP VIEW -



uA711CNS (TI)
VOLTAGE COMPARATOR
- TOP VIEW -

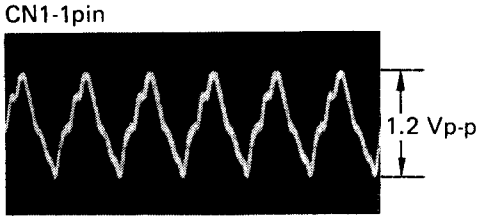


IE-23

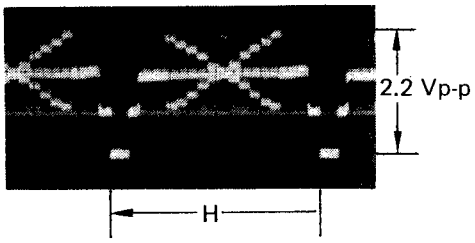
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   - Set camera FILTER selector to 1 position.
   - Set camera BARS/WB selector to 3200°K position.
   - Set camera GAIN selector to 0dB position.
   - Set camera S1 switch/IE-23 board (DTL ON/OFF) to ON position.
   - Shoot the grayscale chart. Adjust lens iris so that a white level is 100IRE (For NTSC) or 700mV (For PAL) on the waveform monitor.

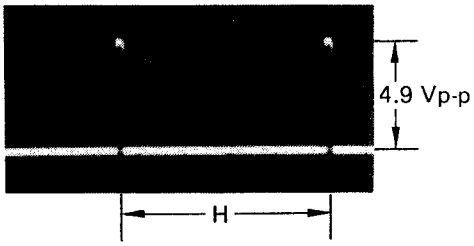
CN1-1pin



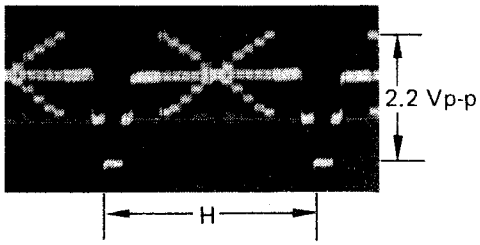
CN2-3 pin



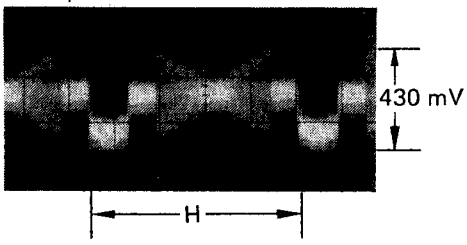
CN1-5pin



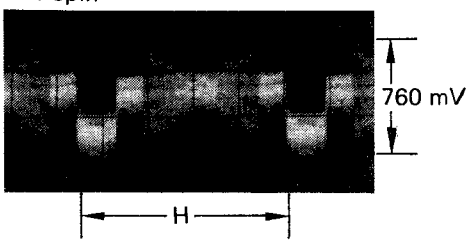
CN2-2pin



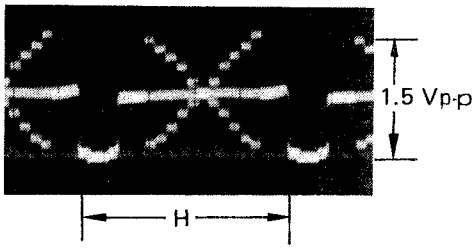
IC1-6pin



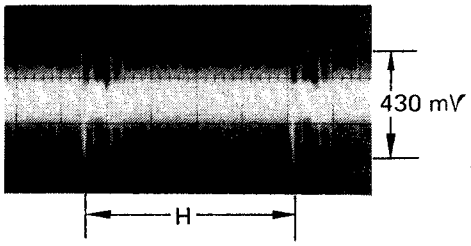
IC1-3pin



TP1



TP4

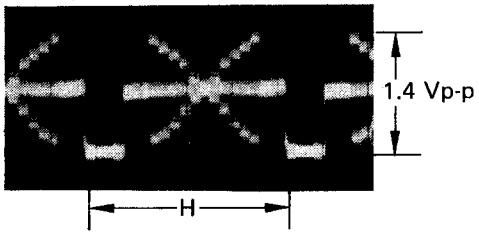


AT-53

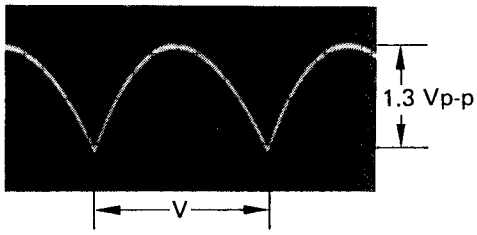
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken in condition below.
   . Shoot the grayscale pattern on the pattern box. Adjust lens iris so that a white level is 100IRE (For NTSC) or 700mV (For PAL) using the waveform monitor.

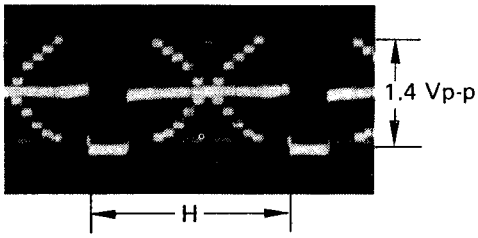
CN2-5, 6, 7



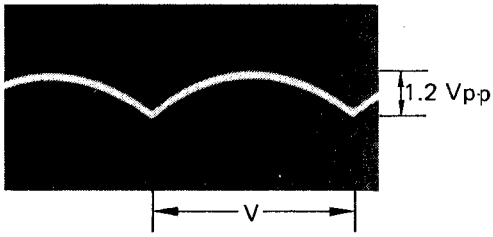
IC7-1pin



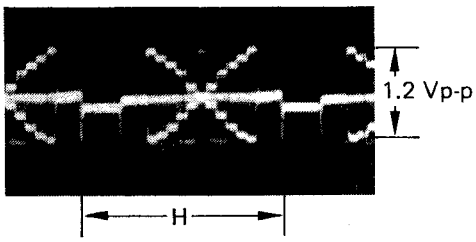
Q13-emitter



IC7-7pin

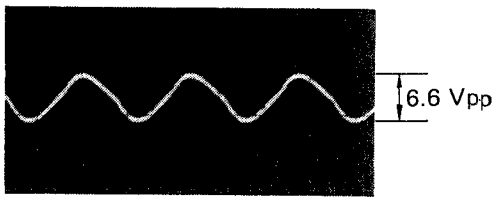


IC4-12pin

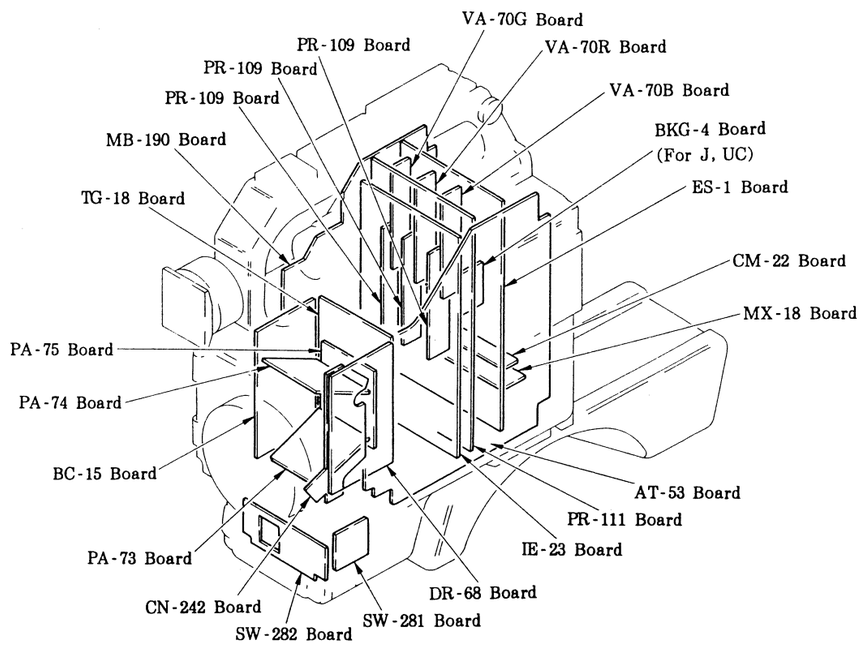


IC9-23pin

4 MHz

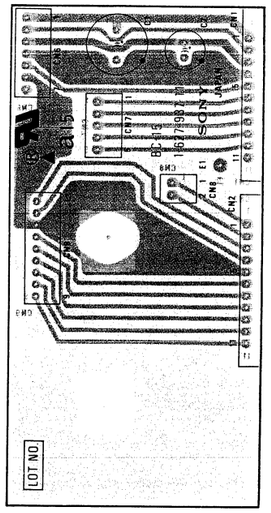


SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS



BC-15 BOARD

Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)



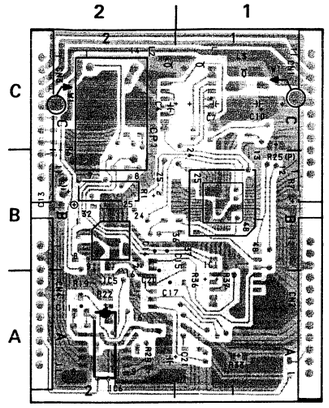
1-627-937-11 COMPONENT SIDE

TG-38 BOARD

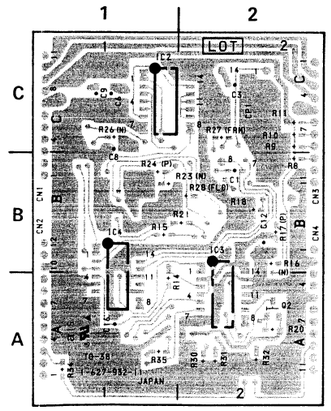
Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)

TG-38 (1-627-932-11)

CN1	C-1
CN2	A-1
CN3	C-2
CN4	A-2
CP1	C-2
D13	B-2
IC1	B-1
IC2	C-1
IC3	A-2
IC4	A-1
IC5	B-2
IC6	A-2
Q2	A-2



1-627-932-11 COMPONENT SIDE



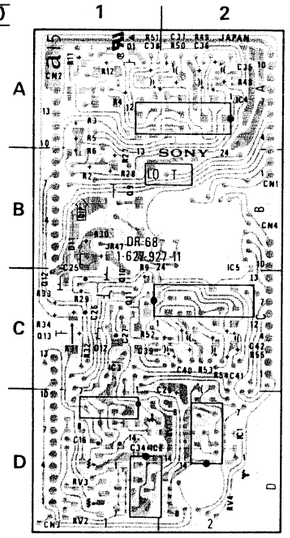
1-627-932-11 SOLDERING SIDE

DR-68 BOARD

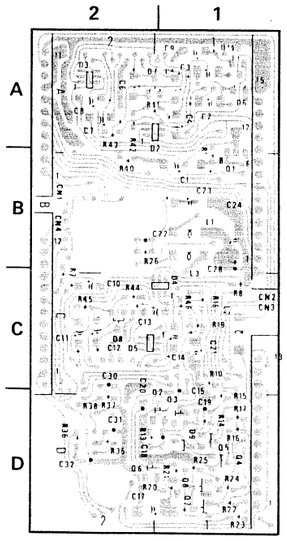
Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)

DR-68 (1-627-927-11)

CN1	A-2
CN2	B-1
CN3	D-1
CN4	C-2
D1	A-1
D2	A-1
D3	A-2
D4	C-1
D5	C-2
D6	A-1
D7	A-2
D8	C-2
D9	D-1
D11	B-1
D12	C-1
IC1	D-2
IC2	D-1
IC3	D-1
IC4	A-2
IC5	C-2
Q1	B-1
Q2	D-1
Q3	D-1
Q4	D-1
Q5	D-1
Q6	D-2
Q7	D-1
Q8	D-1
Q9	B-1
Q10	C-1
Q11	C-1
Q12	C-1
Q13	C-1
Q14	A-1
RV1	D-1
RV2	D-1
RV3	D-1
RV4	D-2



1-627-927-11 COMPONENT SIDE



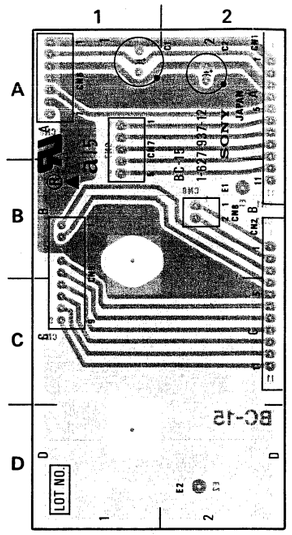
1-627-927-11 SOLDERING SIDE

BC-15 BOARD

Ser.NO.11721-		(UC)
30841-		(J)
42531-		(EK)

BC-15 (1-627-937-12)

CN1	A-2
CN2	C-2
CN6	A-1
CN7	A-1
CN8	B-2
CN9	B-1



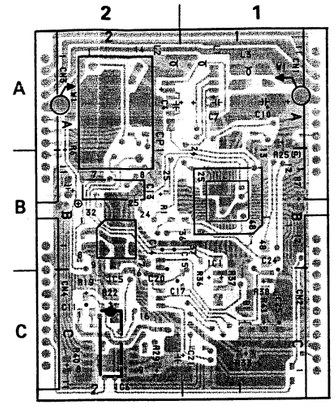
1-627-937-12 COMPONENT SIDE

TG-38 BOARD

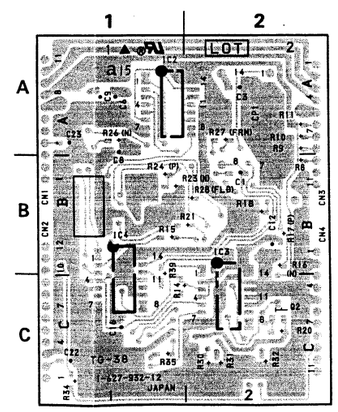
Ser.NO.11721-		(UC)
30841-		(J)
42531-		(EK)

TG-38 (1-627-932-12)

CN1	A-1
CN2	C-1
CN3	A-2
CN4	C-2
CP1	A-2
D1	C-1
IC1	B-1
IC2	A-1
IC3	C-2
IC4	C-1
IC5	B-2
IC6	C-2
Q2	C-2



1-627-932-12 COMPONENT SIDE



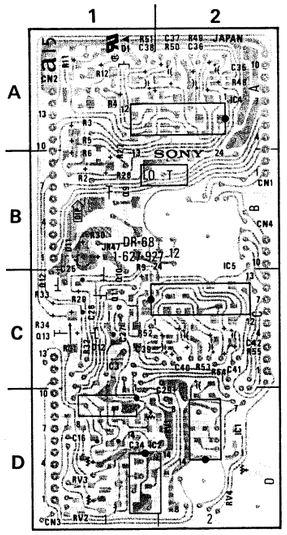
1-627-932-12 SOLDERING SIDE

DR-68 BOARD

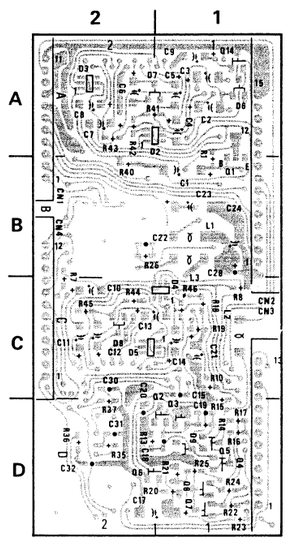
Ser.NO.11721-		(UC)
30841-		(J)
42531-		(EK)

DR-68 (1-627-927-12)

CN1	A-2
CN2	B-1
CN3	D-1
CN4	C-2
E1	B-2
D1	A-1
D2	A-1
D3	A-2
D4	C-1
D5	C-2
D6	A-1
D7	A-2
D8	C-2
D9	D-1
D11	B-1
D12	C-1
IC1	D-2
IC2	D-1
IC3	D-1
IC4	A-2
IC5	C-2
Q1	B-1
Q2	D-1
Q3	D-1
Q4	D-1
Q5	D-1
Q6	D-2
Q7	D-1
Q8	D-1
Q9	B-1
Q10	C-1
Q11	C-1
Q12	C-1
Q13	C-1
Q14	A-1
RV1	D-1
RV2	D-1
RV3	D-1
RV4	D-2
TP1	C-1
TP2	D-2
TP3	D-1
TP4	C-1
TP5	C-1

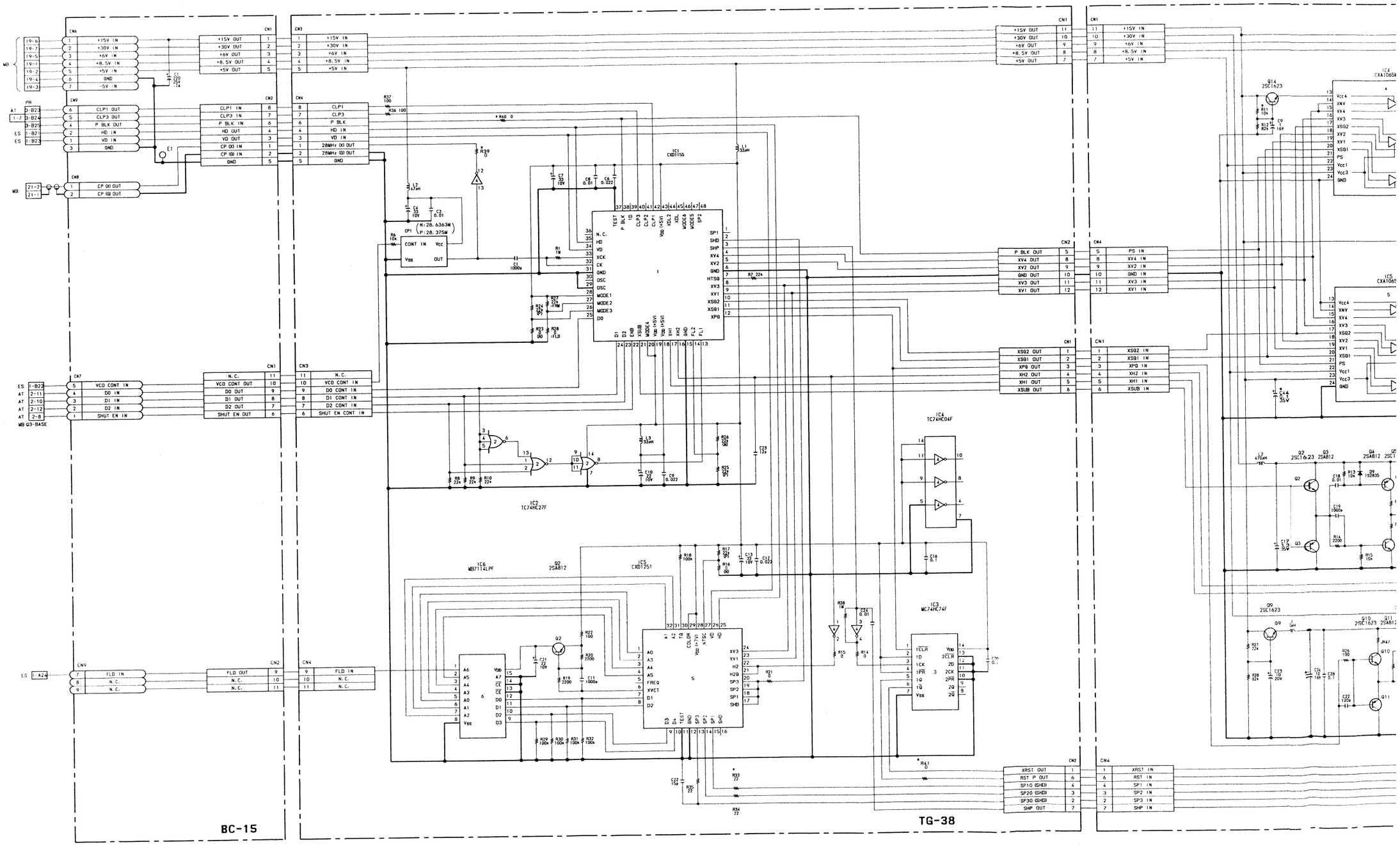


1-627-927-12 COMPONENT SIDE



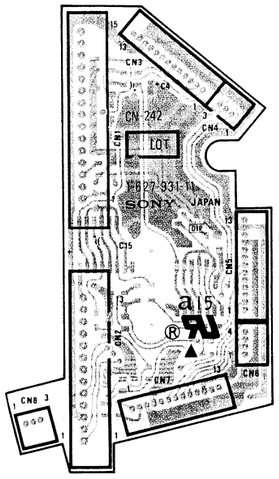
1-627-927-12 SOLDERING SIDE

CCD BLOCK
BC-15 DR-68 TG-38

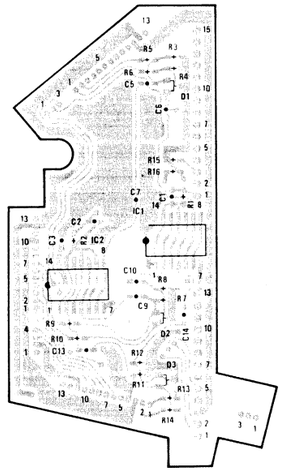


CN-242 BOARD

Ser.NO.10001-11720	(UC)
30001-30840	(J)
40001-42530	(EK)



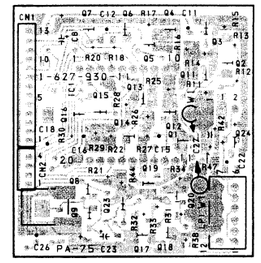
1-627-931-11 COMPONENT SIDE



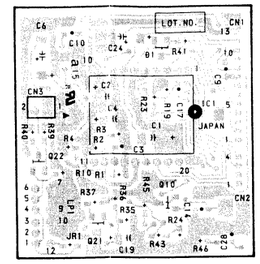
1-627-931-11 SOLDERING SIDE

PA-75 BOARD

Ser.NO.10001-11720	(UC)
30001-30840	(J)
40001-42530	(EK)



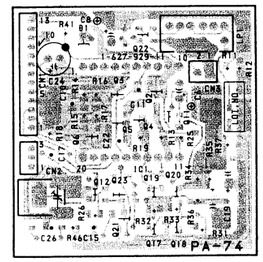
1-627-930-11 COMPONENT SIDE



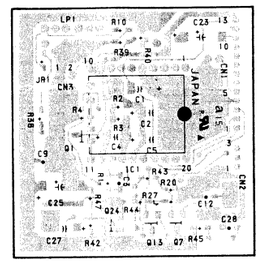
1-627-930-11 SOLDERING SIDE

PA-74 BOARD

Ser.NO.10001-11720	(UC)
30001-30840	(J)
40001-42530	(EK)



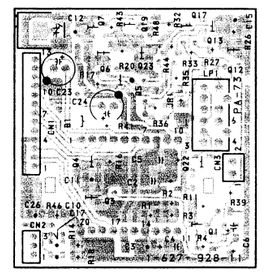
1-627-929-11 COMPONENT SIDE



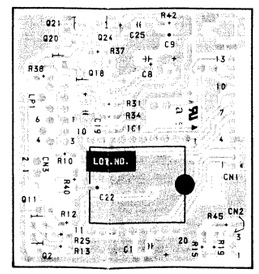
1-627-929-11 SOLDERING SIDE

PA-73 BOARD

Ser.NO.10001-11720	(UC)
30001-30840	(J)
40001-42530	(EK)



1-627-928-11 COMPONENT SIDE

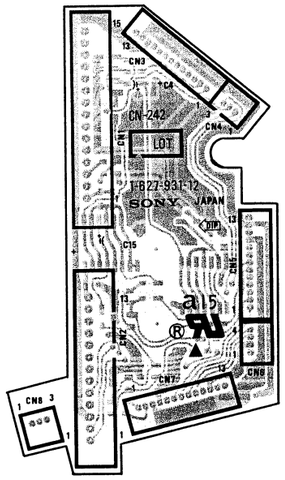


1-627-928-11 SOLDERING SIDE

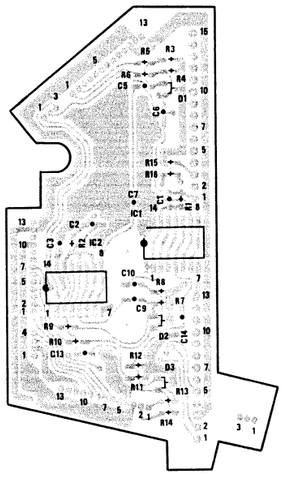
CN-242, PA-73, PA-74, PA-75

CN-242 BOARD

Ser.NO.11721-		(UC)
30841-		(J)
42531-		(EK)



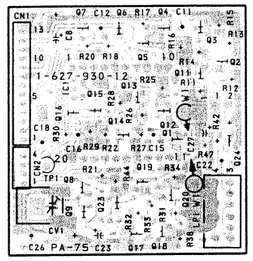
1-627-931-12 COMPONENT SIDE



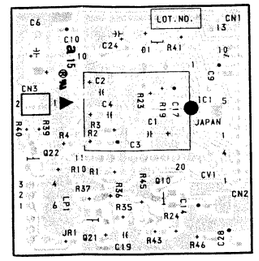
1-627-931-12 SOLDERING SIDE

PA-75 BOARD

Ser.NO.11721-		(UC)
30841-		(J)
42531-		(EK)



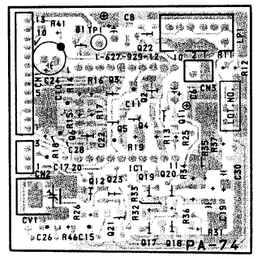
1-627-930-12 COMPONENT SIDE



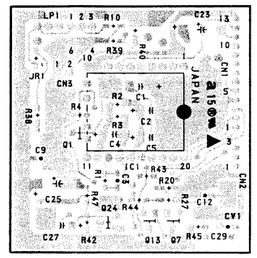
1-627-930-12 SOLDERING SIDE

PA-74 BOARD

Ser.NO.11721-		(UC)
30841-		(J)
42531-		(EK)



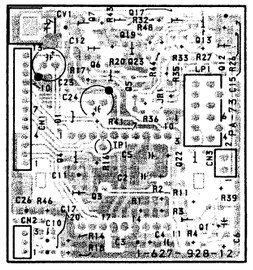
1-627-929-12 COMPONENT SIDE



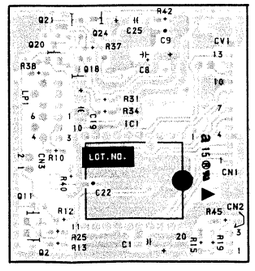
1-627-929-12 SOLDERING SIDE

PA-73 BOARD

Ser.NO.11721-		(UC)
30841-		(J)
42531-		(EK)

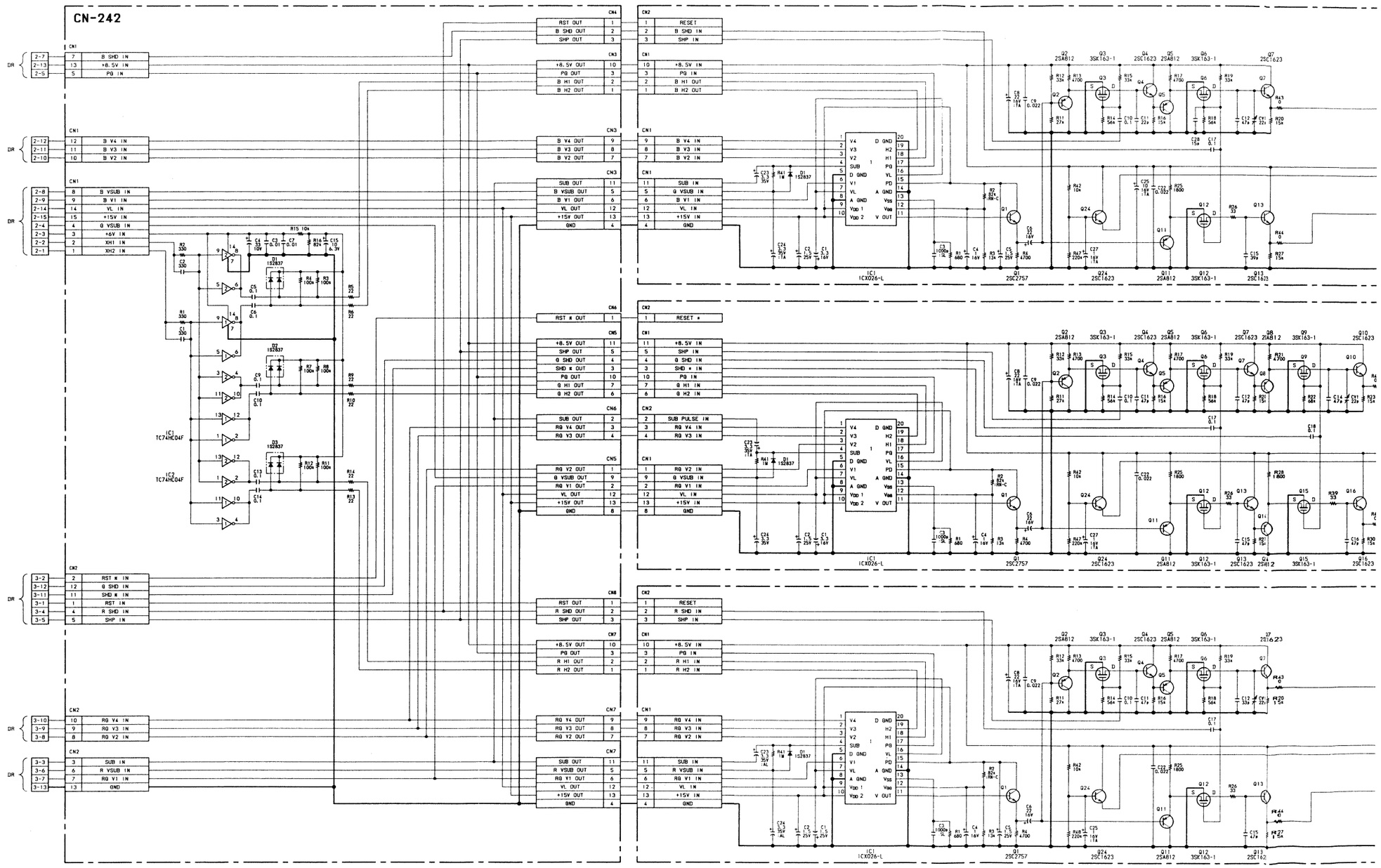


1-627-928-12 COMPONENT SIDE



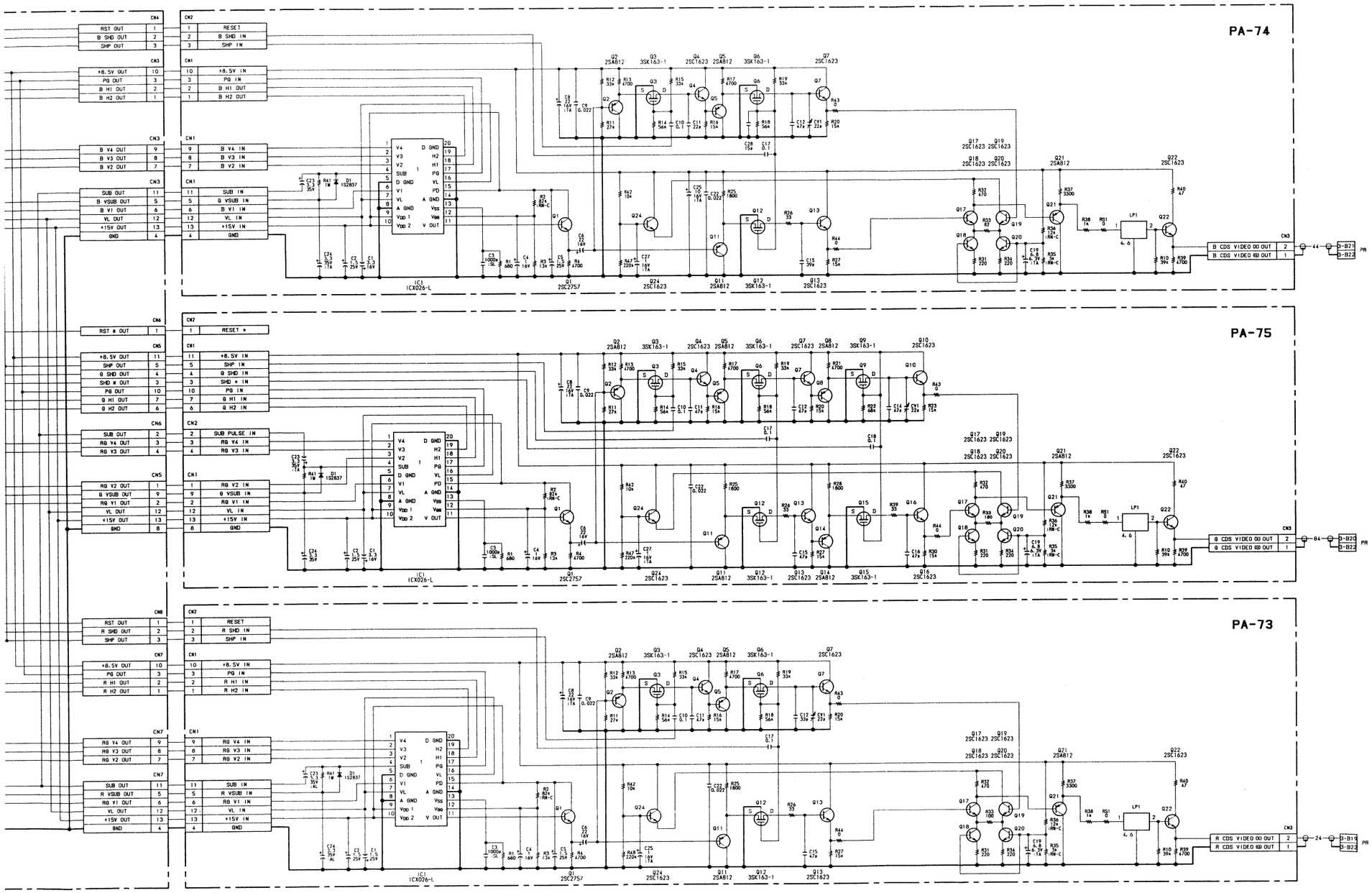
1-627-928-12 SOLDERING SIDE

CCD BLOCK
CN-242 PA-73 74 75



CCD BLOCK
CN-242 PA-73 74 75

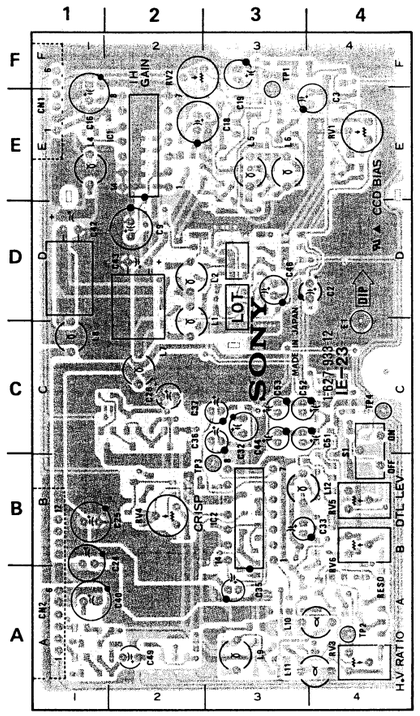
CCD BLOCK
CN-242 PA-73 74 75



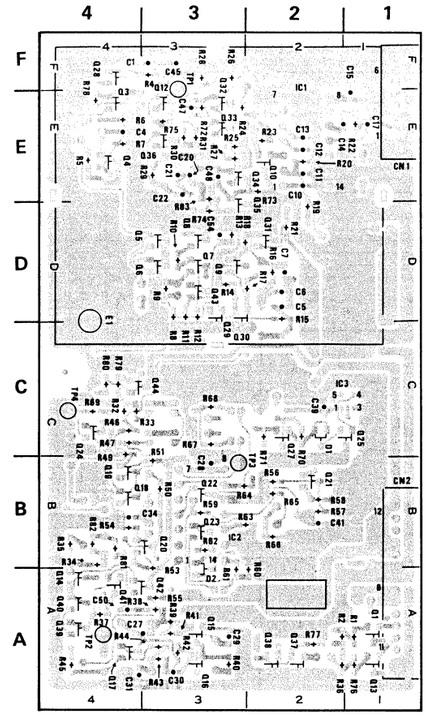
Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4



1-627-933-11 COMPONENT SIDE



1-627-933-11 SOLDERING SIDE

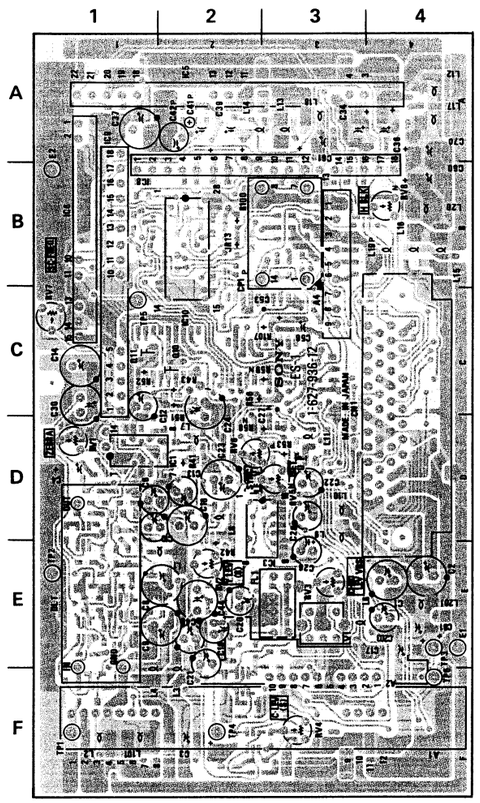
IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4

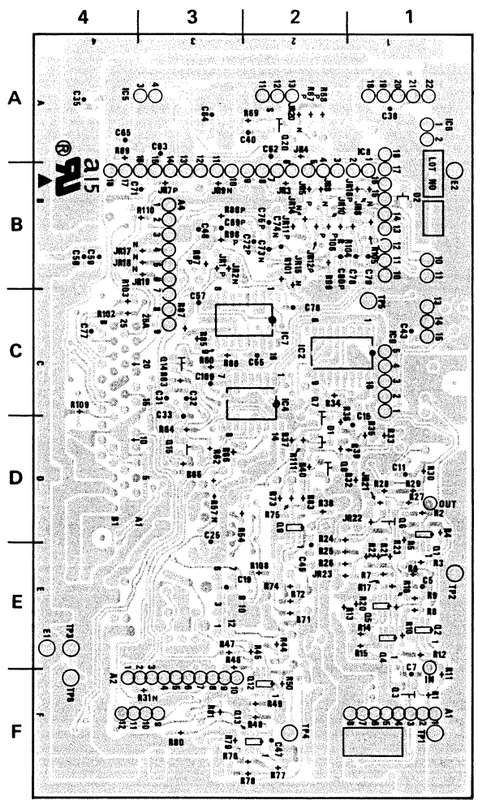
Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)

IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4



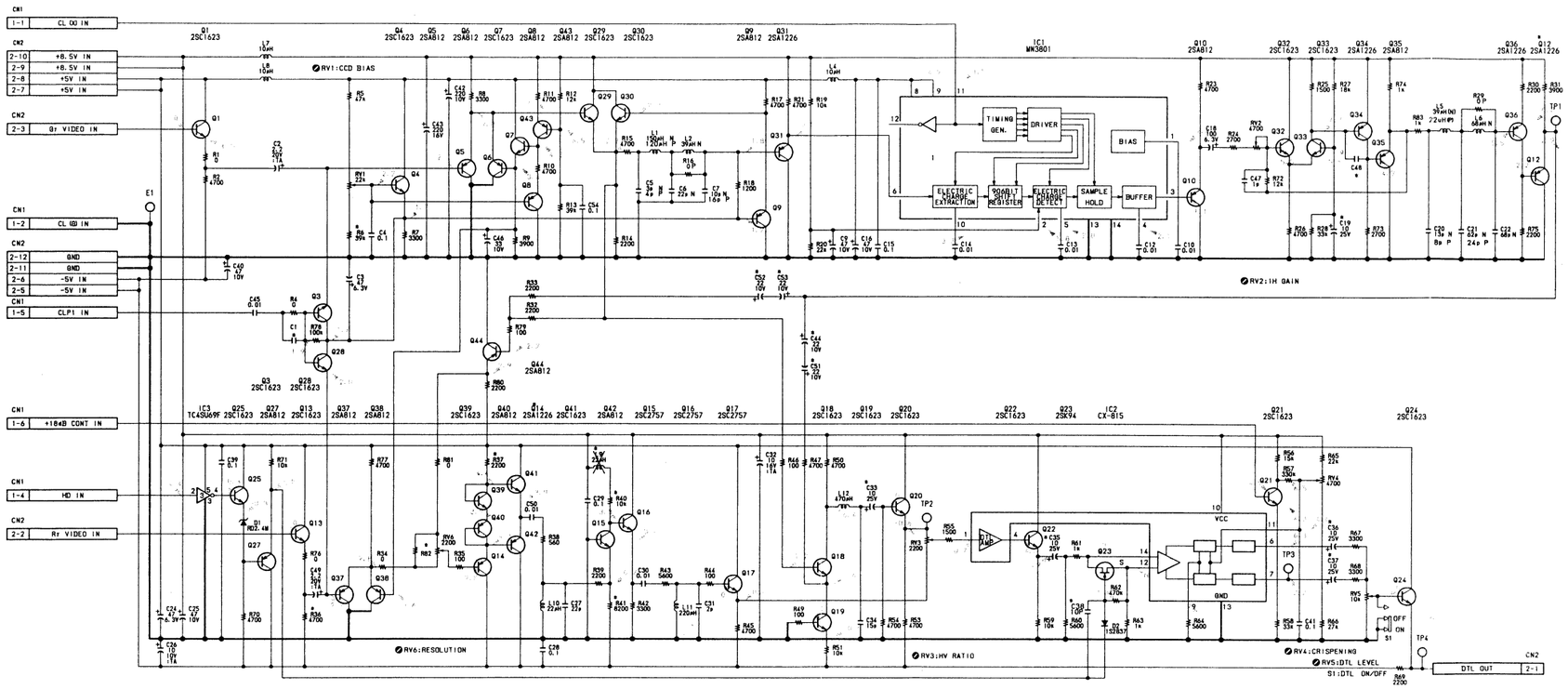
1-627-936-12 COMPONENT SIDE



1-627-936-12 SOLDERING SIDE

IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4



* CHANGE INFORMATION

REF. NO	DESCRIPTION	EFECTIVE SER. NO
Q12	2SA812 → 2SA1226	U2021 - (EK) X9621 - (EK) A1521 - (EK)
R6 R36 R37 R40 R41 Q14	47K → 39K 1K → 470Ω 5600 → 470Ω 470Ω → 1K 5600 → 2200 2SA812 → 2SA1226	U2021 - (EK) X9621 - (EK) A1521 - (EK)
L9 C17, C33, 35, 36, 37 C44, 51, 52, 53 C38	22UH → DELETE 10WF/16V → 10WF/25V 22WF/6.3V → 22WF/10V 10P → ADD	

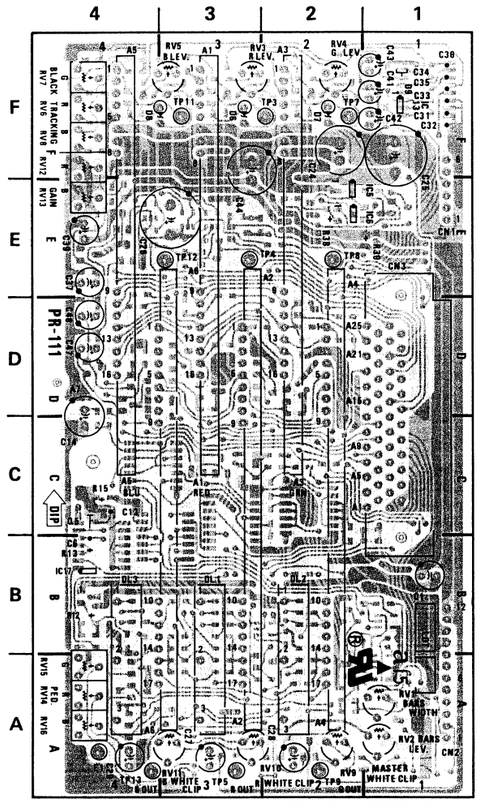
IE-23 BOARD

PR-111 BOARD

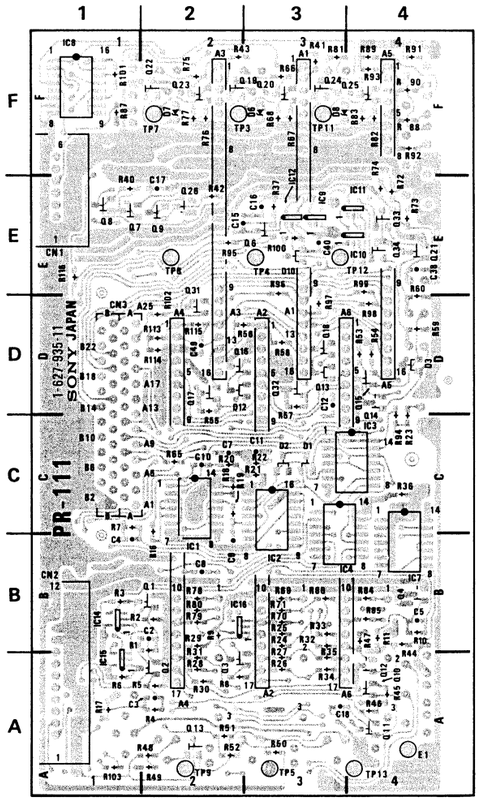
Ser.No.	
10001-11270	(UC)
30001-30810	(J)
40001-42080	(EK)

PR-111 (1-627-935-11,12)

CN1	E-1	Q16	D-2
CN2	A-1	Q17	D-2
CN3	D-1	Q18	D-3
		Q19	F-2
D1	C-3	Q20	F-3
D2	C-3	Q21	E-4
D3	D-4	Q22	F-2
D6	F-3	Q23	F-2
D7	F-2	Q24	F-3
D8	F-3	Q25	F-4
D9	F-1	Q26	E-2
D10	E-3	Q31	D-2
D12	D-2	Q32	D-3
D13	D-3	Q33	E-4
DL1	A-3	Q34	E-4
DL2	A-2		
DL3	A-4	RV1	A-1
		RV2	A-1
		RV3	F-3
E1	A-4	RV4	F-2
		RV5	F-3
IC1	C-2	RV6	F-4
IC2	C-3	RV7	F-4
IC3	C-4	RV8	F-4
IC4	B-3	RV9	A-2
IC5	E-2	RV10	A-3
IC6	E-2	RV11	A-3
IC7	B-4	RV12	F-4
IC8	F-1	RV13	E-4
IC9	E-3	RV14	A-4
IC10	E-4	RV15	A-4
IC11	E-4	RV16	A-4
IC12	E-3		
IC13	F-1	TP3	F-2
IC14	B-1	TP4	E-3
IC15	A-1	TP5	A-3
IC16	B-2	TP7	F-2
IC17	B-4	TP8	E-2
		TP9	A-2
Q1	B-2	TP11	F-3
Q2	A-2	TP12	E-3
Q3	A-2	TP13	A-4
Q4	B-4		
Q5	C-4		
Q6	E-3		
Q7	E-1		
Q8	E-1		
Q9	E-2		
Q10	A-4		
Q11	A-4		
Q12	A-4		
Q13	A-2		
Q14	D-4		
Q15	D-4		



1-627-935-11 COMPONENT SIDE



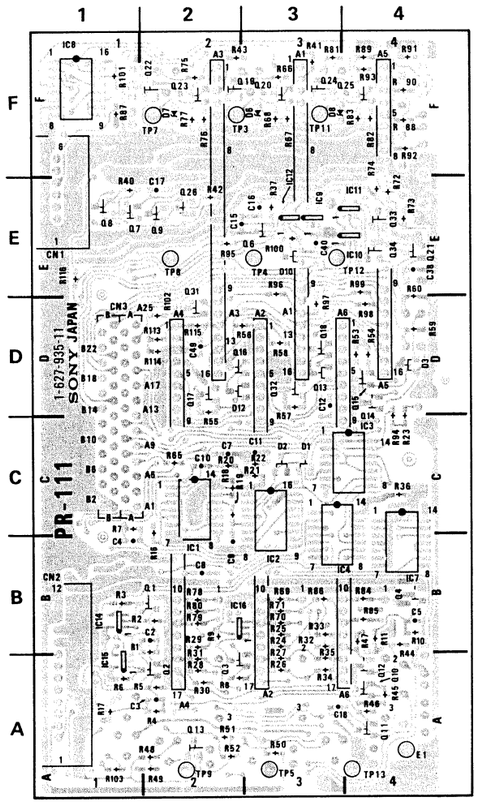
1-627-935-11 SOLDERING SIDE

PR-111 (1-627-935-11,12)

CN1	E-1	Q16	D-2
CN2	A-1	Q17	D-2
CN3	D-1	Q18	D-3
		Q19	F-2
D1	C-3	Q20	F-3
D2	C-3	Q21	E-4
D3	D-4	Q22	F-2
D6	F-3	Q23	F-2
D7	F-2	Q24	F-3
D8	F-3	Q25	F-4
D9	F-1	Q26	E-2
D10	E-3	Q31	D-2
D12	D-2	Q32	D-3
D13	D-3	Q33	E-4
DL1	A-3	Q34	E-4
DL2	A-2		
DL3	A-4	RV1	A-1
		RV2	A-1
		RV3	F-3
E1	A-4	RV4	F-2
		RV5	F-3
IC1	C-2	RV6	F-4
IC2	C-3	RV7	F-4
IC3	C-4	RV8	F-4
IC4	B-3	RV9	A-2
IC5	E-2	RV10	A-3
IC6	E-2	RV11	A-3
IC7	B-4	RV12	F-4
IC8	F-1	RV13	E-4
IC9	E-3	RV14	A-4
IC10	E-4	RV15	A-4
IC11	E-4	RV16	A-4
IC12	E-3		
IC13	F-1	TP3	F-2
IC14	B-1	TP4	E-3
IC15	A-1	TP5	A-3
IC16	B-2	TP7	F-2
IC17	B-4	TP8	E-2
		TP9	A-2
Q1	B-2	TP11	F-3
Q2	A-2	TP12	E-3
Q3	A-2	TP13	A-4
Q4	B-4		
Q5	C-4		
Q6	E-3		
Q7	E-1		
Q8	E-1		
Q9	E-2		
Q10	A-4		
Q11	A-4		
Q12	A-4		
Q13	A-2		
Q14	D-4		
Q15	D-4		

VA-70 BOARD

Ser.No.10001-11270	(UC)
30001-30810	(J)
40001-42080	(EK)

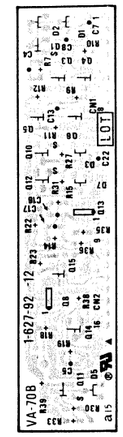


1-627-935-11 SOLDERING SIDE

PR-111 (1-627-935-11,12)

CN1	E-1	Q16	D-2
CN2	A-1	Q17	D-2
CN3	D-1	Q18	D-3
		Q19	F-2
D1	C-3	Q20	F-3
D2	C-3	Q21	E-4
D3	D-4	Q22	F-2
D6	F-3	Q23	F-2
D7	F-2	Q24	F-3
D8	F-3	Q25	F-4
D9	F-1	Q26	E-2
D10	E-3	Q31	D-2
D12	D-2	Q32	D-3
D13	D-3	Q33	E-4
DL1	A-3	Q34	E-4
DL2	A-2		
DL3	A-4	RV1	A-1
		RV2	A-1
		RV3	F-3
E1	A-4	RV4	F-2
		RV5	F-3
IC1	C-2	RV6	F-4
IC2	C-3	RV7	F-4
IC3	C-4	RV8	F-4
IC4	B-3	RV9	A-2
IC5	E-2	RV10	A-3
IC6	E-2	RV11	A-3
IC7	B-4	RV12	F-4
IC8	F-1	RV13	E-4
IC9	E-3	RV14	A-4
IC10	E-4	RV15	A-4
IC11	E-4	RV16	A-4
IC12	E-3		
IC13	F-1	TP3	F-2
IC14	B-1	TP4	E-3
IC15	A-1	TP5	A-3
IC16	B-2	TP7	F-2
IC17	B-4	TP8	E-2
		TP9	A-2
Q1	B-2	TP11	F-3
Q2	A-2	TP12	E-3
Q3	A-2	TP13	A-4
Q4	B-4		
Q5	C-4		
Q6	E-3		
Q7	E-1		
Q8	E-1		
Q9	E-2		
Q10	A-4		
Q11	A-4		
Q12	A-4		
Q13	A-2		
Q14	D-4		
Q15	D-4		

1-627-925-11 COMPONENT SIDE

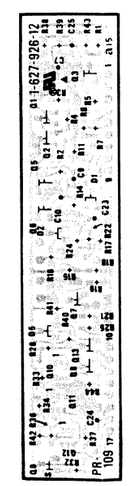


1-627-925-11 SOLDERING SIDE

PR-109 BOARD

Ser.No.10001-11270	(UC)
30001-30810	(J)
40001-42080	(EK)

1-627-926-11 COMPONENT SIDE



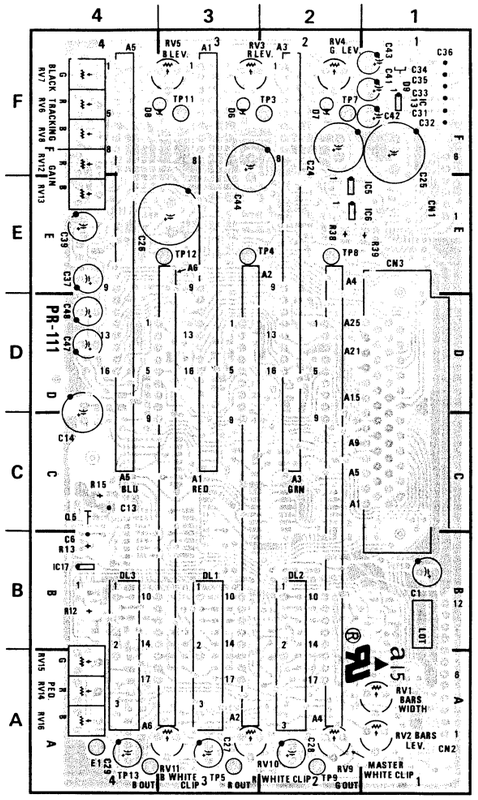
1-627-926-11 SOLDERING SIDE

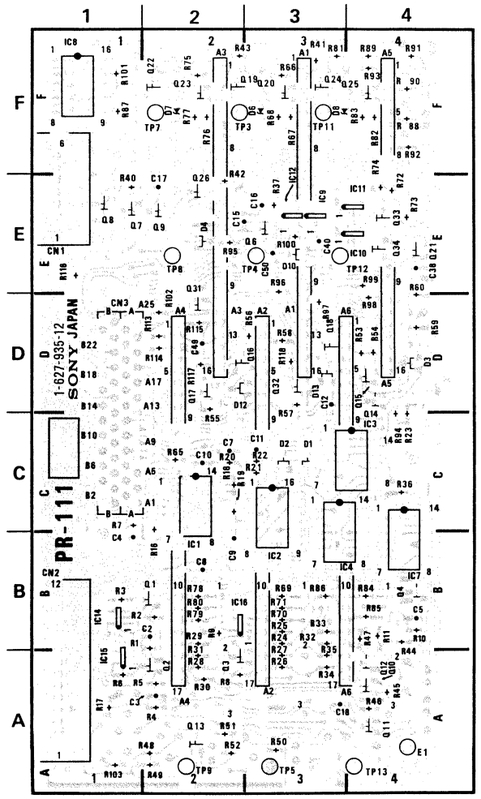
PR-111 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)

PR-111 (1-627-935-11,12)

CN1	E-1	Q16	D-2
CN2	A-1	Q17	D-2
CN3	D-1	Q18	D-3
		Q19	F-2
D1	C-3	Q20	F-3
D2	C-3	Q21	E-4
D3	D-4	Q22	F-2
D6	F-3	Q23	F-2
D7	F-2	Q24	F-3
D8	F-3	Q25	F-4
D9	F-1	Q26	E-2
D10	E-3	Q31	D-2
D12	D-2	Q32	D-3
D13	D-3	Q33	E-4
DL1	A-3	Q34	E-4
DL2	A-2		
DL3	A-4	RV1	A-1
		RV2	A-1
		RV3	F-3
E1	A-4	RV4	F-2
		RV5	F-3
IC1	C-2	RV6	F-4
IC2	C-3	RV7	F-4
IC3	C-4	RV8	F-4
IC4	B-3	RV9	A-2
IC5	E-2	RV10	A-3
IC6	E-2	RV11	A-3
IC7	B-4	RV12	F-4
IC8	F-1	RV13	E-4
IC9	E-3	RV14	A-4
IC10	E-4	RV15	A-4
IC11	E-4	RV16	A-4
IC12	E-3		
IC13	F-1	TP3	F-2
IC14	B-1	TP4	E-3
IC15	A-1	TP5	A-3
IC16	B-2	TP7	F-2
IC17	B-4	TP8	E-2
		TP9	A-2
Q1	B-2	TP11	F-3
Q2	A-2	TP12	E-3
Q3	A-2	TP13	A-4
Q4	B-4		
Q5	C-4		
Q6	E-3		
Q7	E-1		
Q8	E-1		
Q9	E-2		
Q10	A-4		
Q11	A-4		
Q12	A-4		
Q13	A-2		
Q14	D-4		
Q15	D-4		



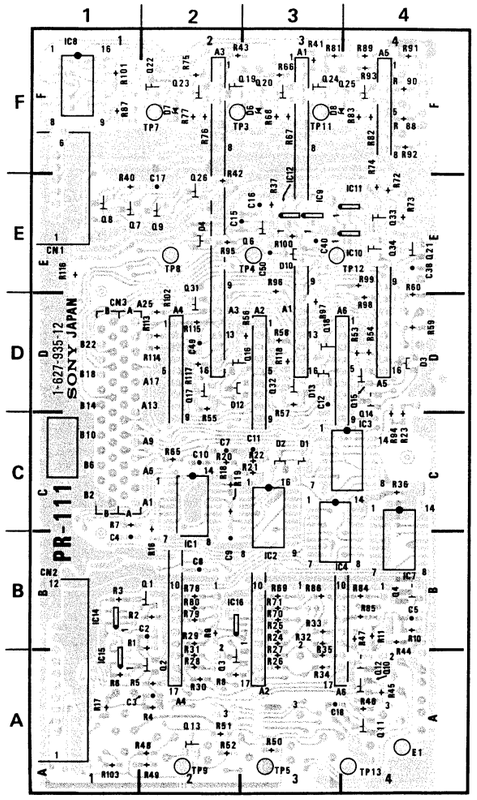


PR-111 (1-627-935-11,12)

CN1	E-1	Q16	D-2
CN2	A-1	Q17	D-2
CN3	D-1	Q18	D-3
		Q19	F-2
D1	C-3	Q20	F-3
D2	C-3	Q21	E-4
D3	D-4	Q22	F-2
D6	F-3	Q23	F-2
D7	F-2	Q24	F-3
D8	F-3	Q25	F-4
D9	F-1	Q26	E-2
D10	E-3	Q31	D-2
D12	D-2	Q32	D-3
D13	D-3	Q33	E-4
DL1	A-3	Q34	E-4
DL2	A-2		
DL3	A-4	RV1	A-1
		RV2	A-1
		RV3	F-3
E1	A-4	RV4	F-2
		RV5	F-3
IC1	C-2	RV6	F-4
IC2	C-3	RV7	F-4
IC3	C-4	RV8	F-4
IC4	B-3	RV9	A-2
IC5	E-2	RV10	A-3
IC6	E-2	RV11	A-3
IC7	B-4	RV12	F-4
IC8	F-1	RV13	E-4
IC9	E-3	RV14	A-4
IC10	E-4	RV15	A-4
IC11	E-4	RV16	A-4
IC12	E-3		
IC13	F-1	TP3	F-2
IC14	B-1	TP4	E-3
IC15	A-1	TP5	A-3
IC16	B-2	TP7	F-2
IC17	B-4	TP8	E-2
		TP9	A-2
Q1	B-2	TP11	F-3
Q2	A-2	TP12	E-3
Q3	A-2	TP13	A-4
Q4	B-4		
Q5	C-4		
Q6	E-3		
Q7	E-1		
Q8	E-1		
Q9	E-2		
Q10	A-4		
Q11	A-4		
Q12	A-4		
Q13	A-2		
Q14	D-4		
Q15	D-4		

VA-70 BOARD

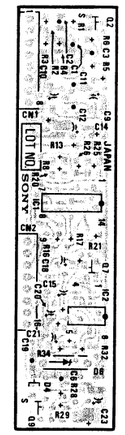
Ser.NO.11271-12090	(UC)
30811-30980	(J)
42081-42850	(EK)



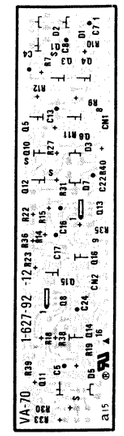
1-627-935-12 SOLDERING SIDE

PR-111 (1-627-935-11,12)

CN1	E-1	Q16	D-2
CN2	A-1	Q17	D-2
CN3	D-1	Q18	D-3
		Q19	F-2
D1	C-3	Q20	F-3
D2	C-3	Q21	E-4
D3	D-4	Q22	F-2
D6	F-3	Q23	F-2
D7	F-2	Q24	F-3
D8	F-3	Q25	F-4
D9	F-1	Q26	E-2
D10	E-3	Q31	D-2
D12	D-2	Q32	D-3
D13	D-3	Q33	E-4
DL1	A-3	Q34	E-4
DL2	A-2		
DL3	A-4	RV1	A-1
		RV2	A-1
		RV3	F-3
E1	A-4	RV4	F-2
		RV5	F-3
IC1	C-2	RV6	F-4
IC2	C-3	RV7	F-4
IC3	C-4	RV8	F-4
IC4	B-3	RV9	A-2
IC5	E-2	RV10	A-3
IC6	E-2	RV11	A-3
IC7	B-4	RV12	F-4
IC8	F-1	RV13	E-4
IC9	E-3	RV14	A-4
IC10	E-4	RV15	A-4
IC11	E-4	RV16	A-4
IC12	E-3		
IC13	F-1	TP3	F-2
IC14	B-1	TP4	E-3
IC15	A-1	TP5	A-3
IC16	B-2	TP7	F-2
IC17	B-4	TP8	E-2
		TP9	A-2
Q1	B-2	TP11	F-3
Q2	A-2	TP12	E-3
Q3	A-2	TP13	A-4
Q4	B-4		
Q5	C-4		
Q6	E-3		
Q7	E-1		
Q8	E-1		
Q9	E-2		
Q10	A-4		
Q11	A-4		
Q12	A-4		
Q13	A-2		
Q14	D-4		
Q15	D-4		



1-627-925-12 COMPONENT SIDE

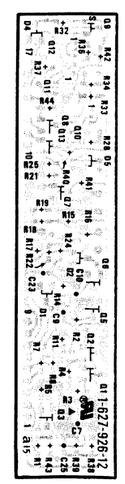


1-627-925-12 SOLDERING SIDE

PR-109 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)

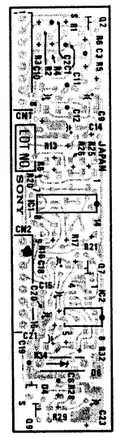
1-627-926-12 COMPONENT SIDE



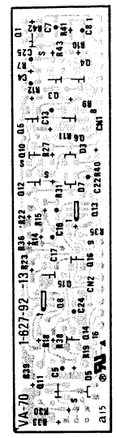
1-627-926-12 SOLDERING SIDE

VA-70 BOARD

Ser.NO.12091-	(UC)
30981-	(J)
42851-	(EK)



1-627-925-13 COMPONENT SIDE



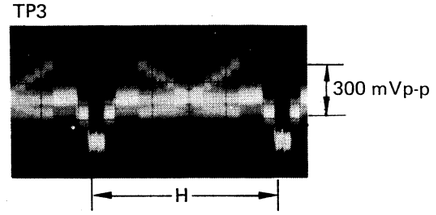
1-627-925-13 SOLDERING SIDE

PR-111

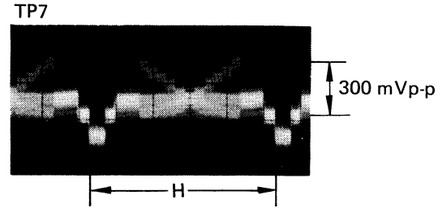
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   - Set camera FILTER selector to 1 position.
   - Set camera GAIN selector to 0dB position.
   - Shoot the grayscale pattern on the pattern box. Adjust lens iris so that a white level is 100IRE (For NTSC) or 700mV (For PAL) using the waveform monitor.

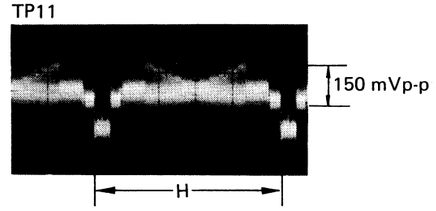
TP3



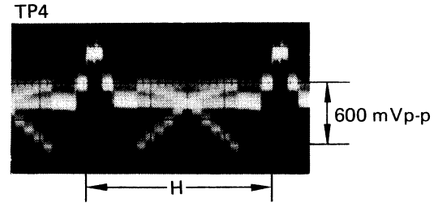
TP7



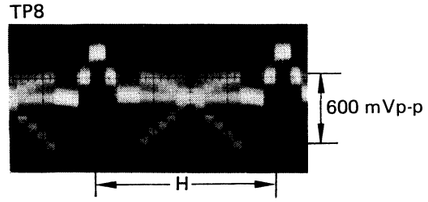
TP11



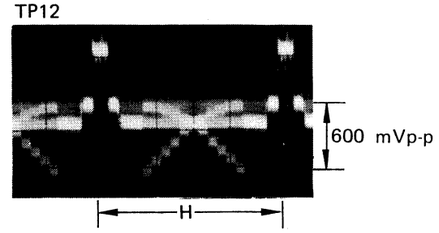
TP4



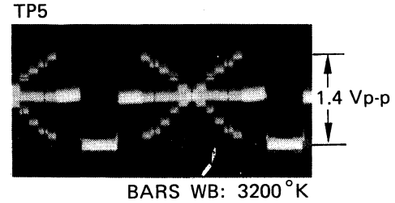
TP8



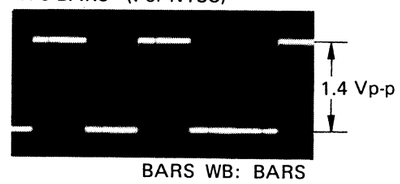
TP12



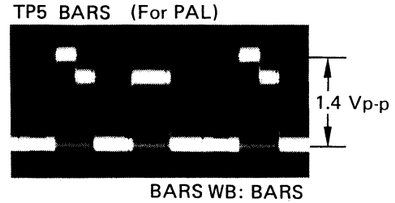
TP5



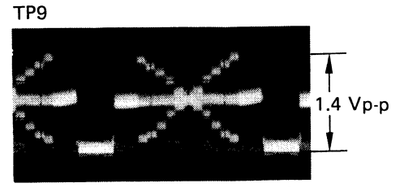
TP5 BARS (For NTSC)



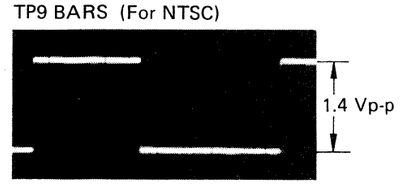
TP5 BARS (For PAL)



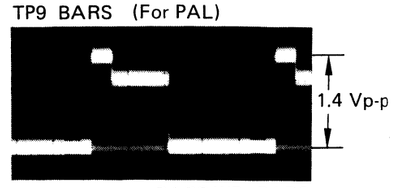
TP9



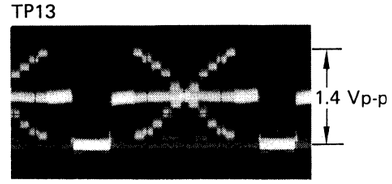
TP9 BARS (For NTSC)



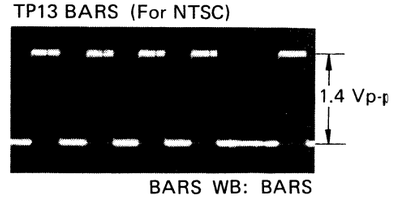
TP9 BARS (For PAL)



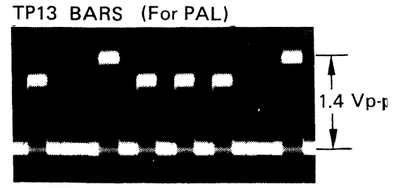
TP13

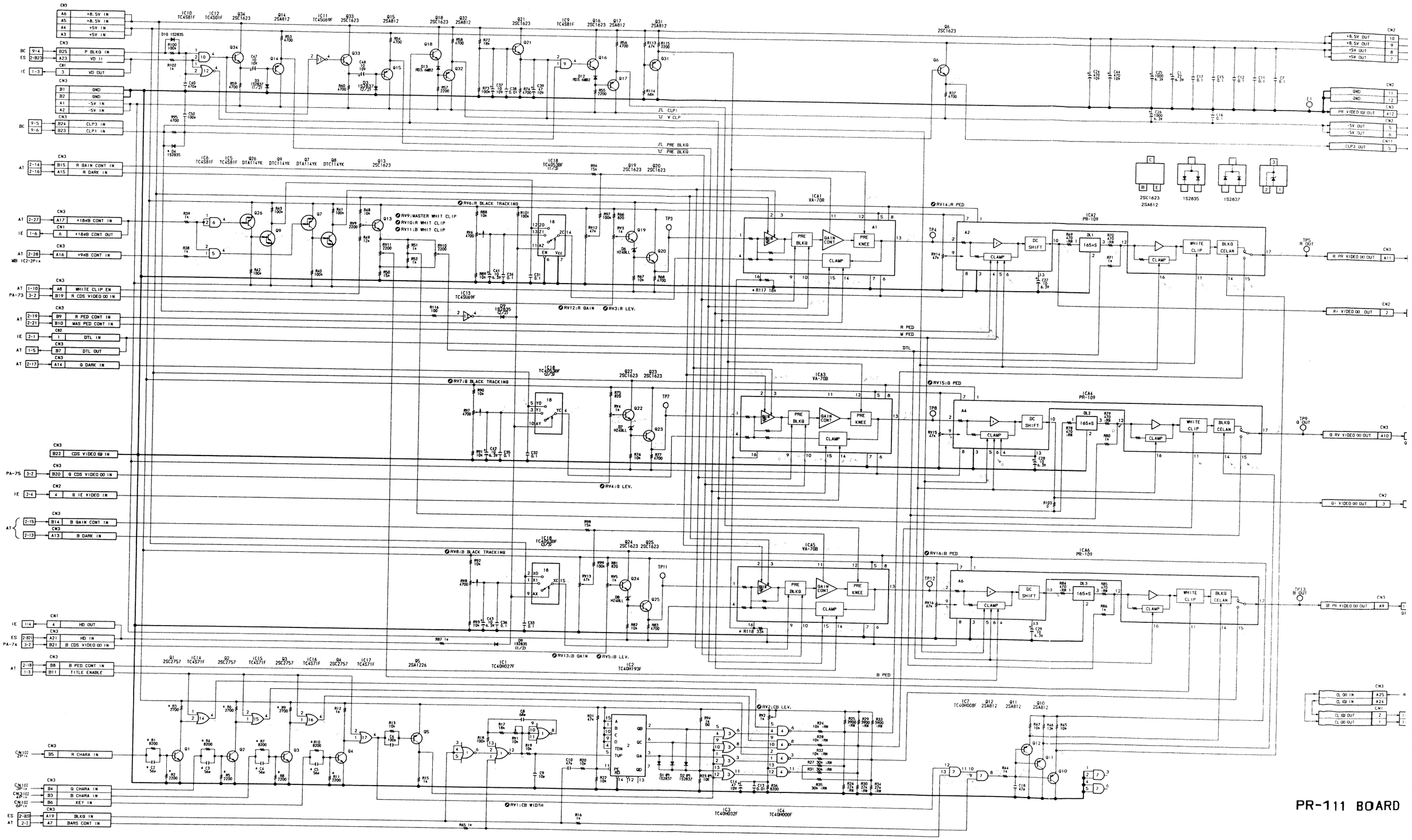


TP13 BARS (For NTSC)

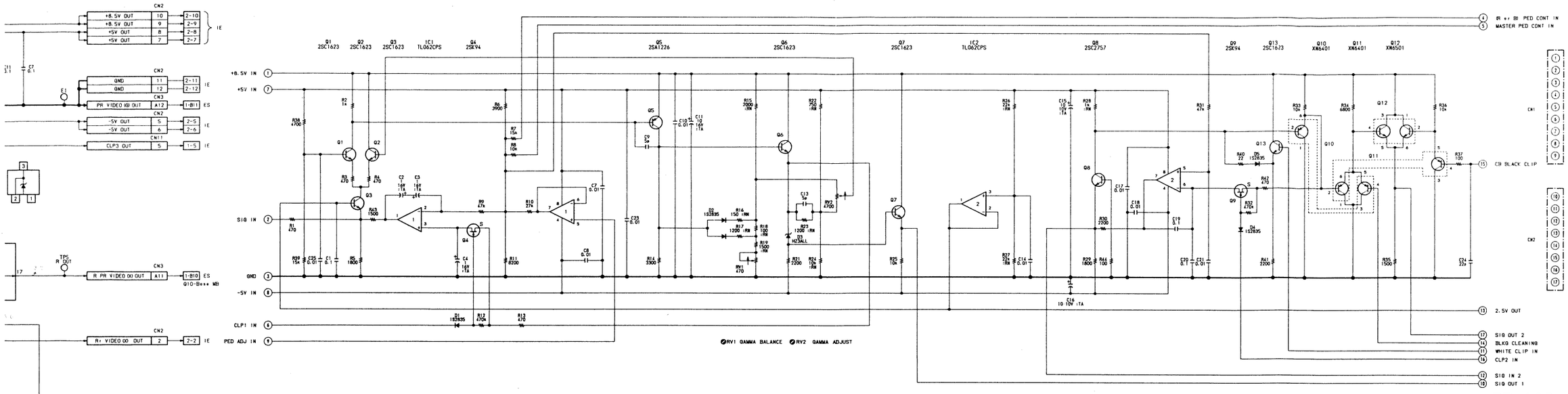


TP13 BARS (For PAL)

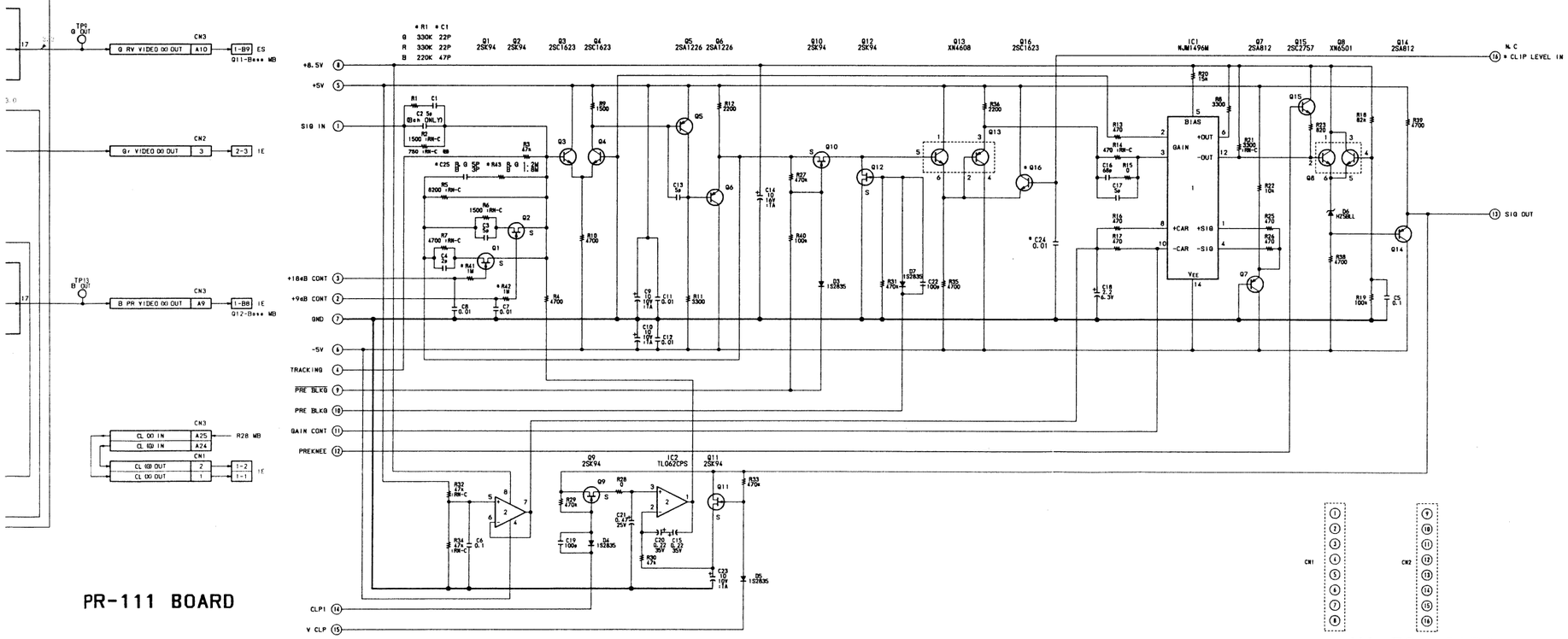



CN3
A6 +8.5V IN
A5 +8.5V IN
A4 +5V IN
A3 +5V IN
B25 P BLKG IN
A23 VD II
3 VD OUT
B1 GND
B2 GND
A1 -5V IN
A2 -5V IN
B24 CLP3 IN
B23 CLP1 IN
B15 R GAIN CONT IN
A15 R DARK IN
A17 +18dB CONT IN
6 +18dB CONT OUT
A16 +9dB CONT IN
A8 WHITE CLIP EN
B19 R CDS VIDEO 00 IN
B9 R PED CONT IN
B10 MAS PED CONT IN
1 DTL IN
B7 DTL OUT
A14 G DARK IN
B22 CDS VIDEO 00 IN
B20 G CDS VIDEO 00 IN
4 G IE VIDEO IN
B14 B GAIN CONT IN
A13 B DARK IN
4 HD OUT
A21 HD IN
B21 B CDS VIDEO 00 IN
B8 B PED CONT IN
B11 TITLE ENABLE
B5 R CHARA IN
B4 G CHARA IN
B3 B CHARA IN
B6 KEY IN
A19 BLKG IN
A7 BARS CONT IN
CN2
+8.5V OUT
+8.5V OUT
+5V OUT
+5V OUT
GND
GND
PR VIDEO 00 OUT
-5V OUT
-5V OUT
CLP3 OUT
R PR VIDEO 00 OUT
R VIDEO 00 OUT
G RV VIDEO 00 OUT
G VIDEO 00 OUT
B PR VIDEO 00 OUT
CL 00 IN
CL 00 IN
CL 00 OUT
CL 00 OUT
CLP1
V CLP
PRE BLKG
PRE BLKG
RV6:R BLACK TRACKING
RV9:MASTER WHIT CLIP
RV10:R WHIT CLIP
RV11:B WHIT CLIP
RV12:R GAIN
RV3:R LEV.
RV7:G BLACK TRACKING
RV4:G LEV.
RV8:B BLACK TRACKING
RV13:B GAIN
RV5:B LEV.
RV1:CB WIDTH
RV2:CB LEV.
RV14:R PED
RV15:G PED
RV16:B PED
R PED
M PED
DTL
B PED
IC41 VA-70R
IC43 VA-70B
IC45 VA-70B
IC42 PR-109
IC44 PR-109
IC46 PR-109
PRE BLKG
GAIN CONT
PRE KNEE
CLAMP
DC SHIFT
WHITE CLIP
BLKG CELAN
TP3
TP4
TP6
TP7
TP9
TP11
TP12
TP13
R OUT
G OUT
B OUT
2SC1623
2SA812
1S2835
1S2837

PR-111 BOARD



PR-109



PR-111 BOARD

VA-70 BOARD

* NOTE

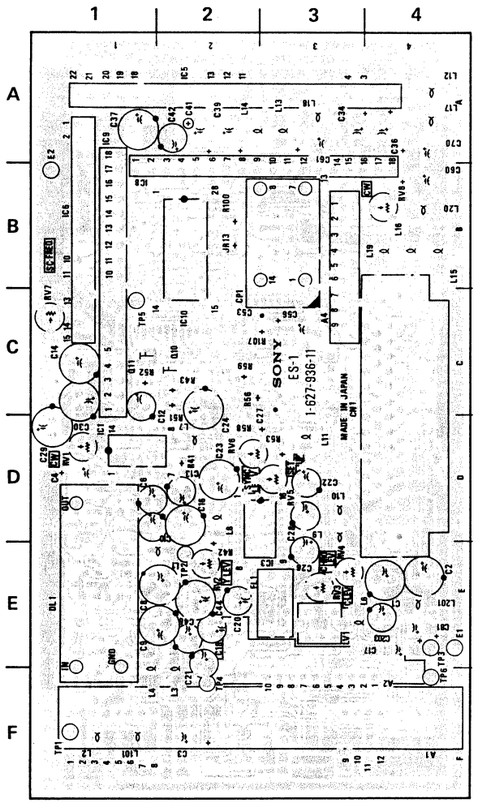
BOARD	REF No	CHANGE INFORMATION	SER No
PR-111	C2, 3, 4, 5	100P → 56P	10921 and higher (UC) 30611 and higher (J) 41521 and higher (EK)
	R1, 4, 7, 10	10K → 8200	
	R2, 5, 8, 11	47K → 2200	
	R3, 6, 9	3300 → 2700	
	R117	18K	11271 and higher (UC) 30811 and higher (J) 42081 and higher (EK)
	R118	33K	
	D4	1S1555 → 1S2835	
VA-70	C1	R, Gch 5P → 22P Bch 22P → 47P	10921 and higher (UC) 30611 and higher (J) 42081 and higher (EK)
	R1	Rch 470K → 330K Gch 680K → 330K	
	R41 R42	D1, D2 1S2835 → R41, 42 1M	
	C25 R43	ADD	
	C24 Q16	ADD	11271 and higher (UC) 30811 and higher (J) 42081 and higher (EK)

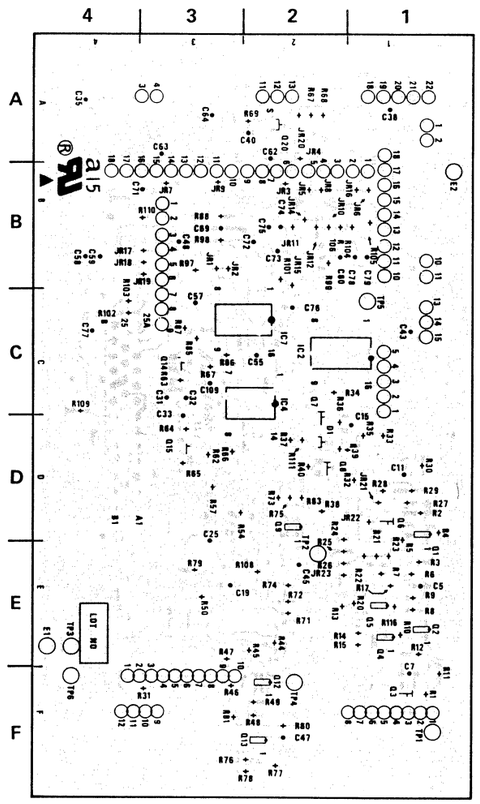
ES-1 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

ES-1 (1-627-936-11)

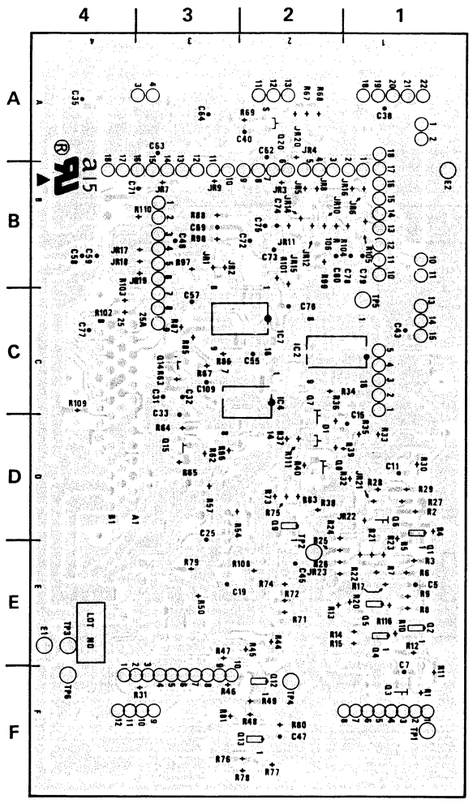
CN1	D-4
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	E-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-1
TP2	E-2
TP3	E-4
TP5	C-1
TP6	F-4





ES-1 (1-627-936-11)

CN1	D-4
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	E-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-1
TP2	E-2
TP3	E-4
TP5	C-1
TP6	F-4

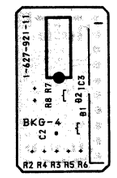


1-627-936-11 MTH DERING SIDE

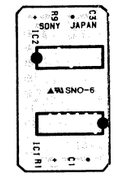
ES-1 (1-627-936-11)

CN1	D-4
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	E-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-1
TP2	E-2
TP3	E-4
TP5	C-1
TP6	F-4

BKG-4 BOARD (NTSC ONLY)



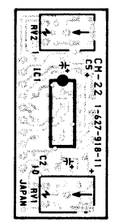
1-627-921-11 COMPONENT SIDE



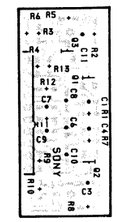
1-627-921-11 SOLDERING SIDE

CM-22 BOARD

Ser.No.	10001-11270	(UC)
	30001-30810	(J)
	40001-42080	(EK)



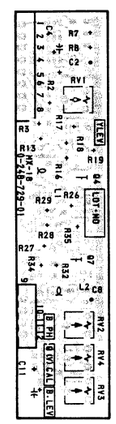
1-627-918-11 COMPONENT SIDE



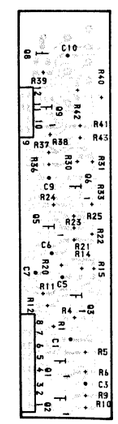
1-627-918-11 SOLDERING SIDE

MX-18 BOARD

Ser.No.	10001-11270	(UC)
	30001-30810	(J)
	40001-42080	(EK)



1-627-919-11 COMPONENT SIDE



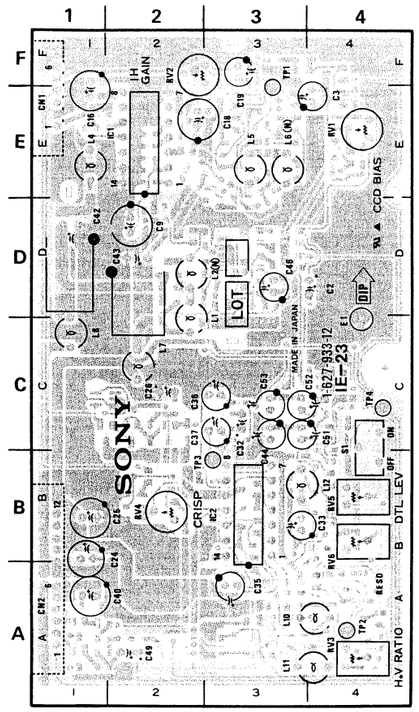
1-627-919-11 SOLDERING SIDE

ES-1 BOARD

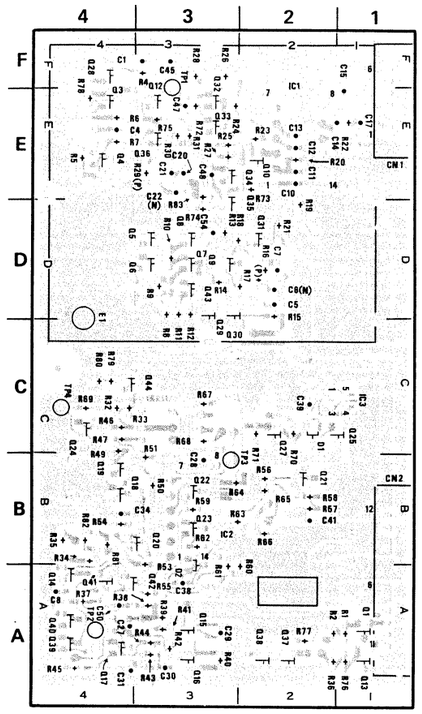
Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)

ES-1 (1-627-936-12)

CN1	E-1
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	F-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-3
TP2	A-4
TP3	B-3
TP4	C-4
TP5	C-1
TP6	F-4



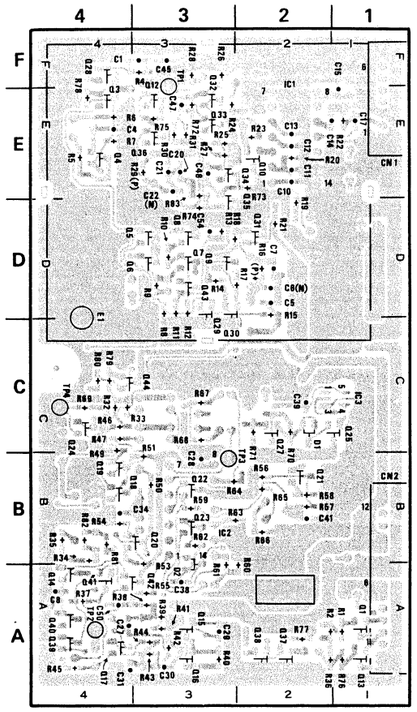
1-627-933-12 COMPONENT SIDE



1-627-933-12 SOLDERING SIDE

ES-1 (1-627-936-12)

CN1	E-1
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	F-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-3
TP2	A-4
TP3	B-3
TP4	C-4
TP5	C-1
TP6	F-4

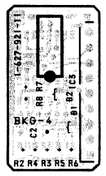


1-627-933-12 SOLDERING SIDE

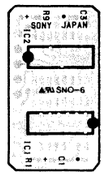
ES-1 (1-627-936-12)

CN1	E-1
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	F-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-3
TP2	A-4
TP3	B-3
TP4	C-4
TP5	C-1
TP6	F-4

BKG-4 BOARD (NTSC ONLY)



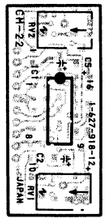
1-627-921-11 COMPONENT SIDE



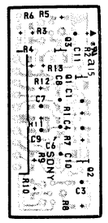
1-627-921-11 SOLDERING SIDE

CM-22 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)



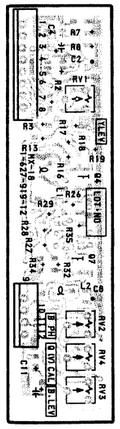
1-627-918-12 COMPONENT SIDE



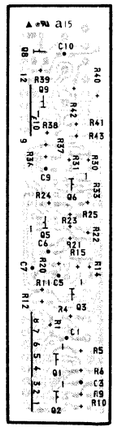
1-627-918-12 SOLDERING SIDE

MX-18 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)



1-627-919-12 COMPONENT SIDE



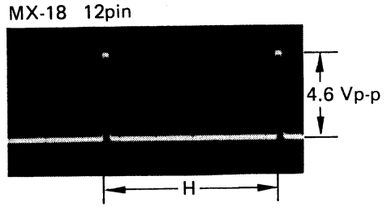
1-627-919-12 SOLDERING SIDE

ES-1

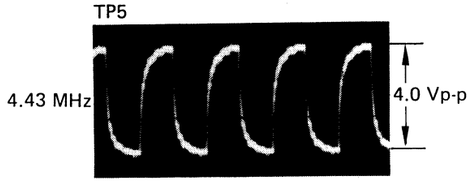
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   . Set camera BARS/WB selector to BARS position.
   . Supply a color-bar signal to the GEN LOCK IN terminal.
3. DC voltage is measured in condition below.
   . Work the camera in the INT mode.

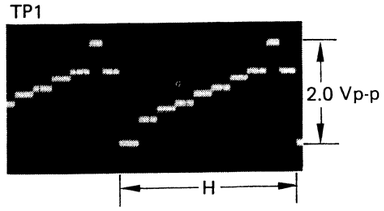
MX-18 12pin



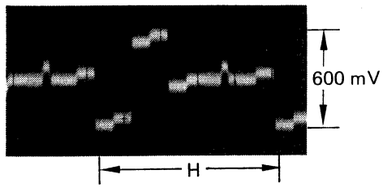
TP5



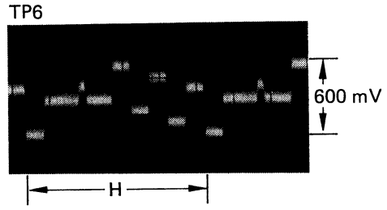
TP1



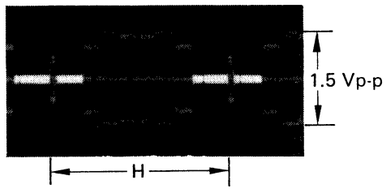
TP3



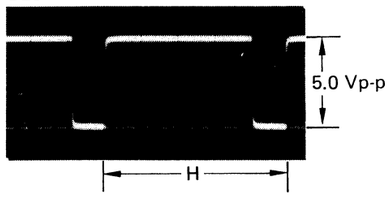
TP6



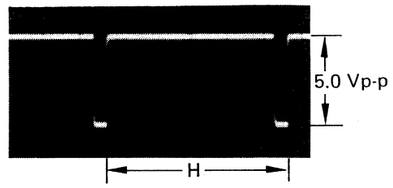
TP4



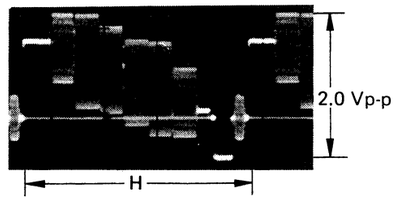
B20



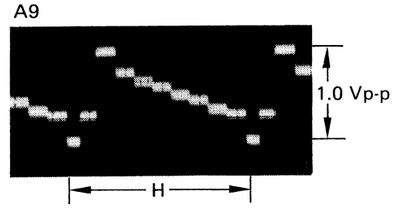
A21



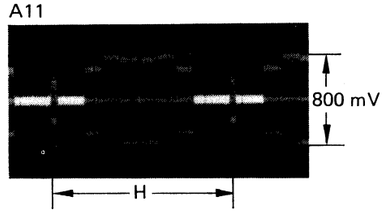
TP2 (VIDEO OUT)



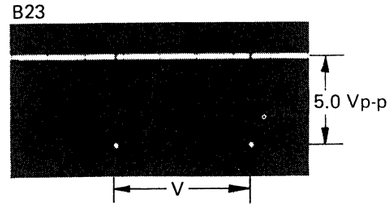
A9



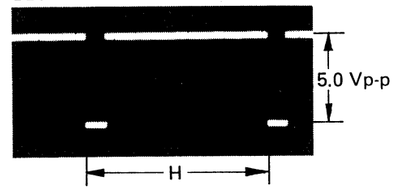
A11



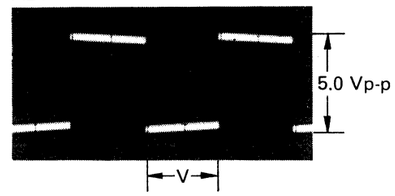
B23



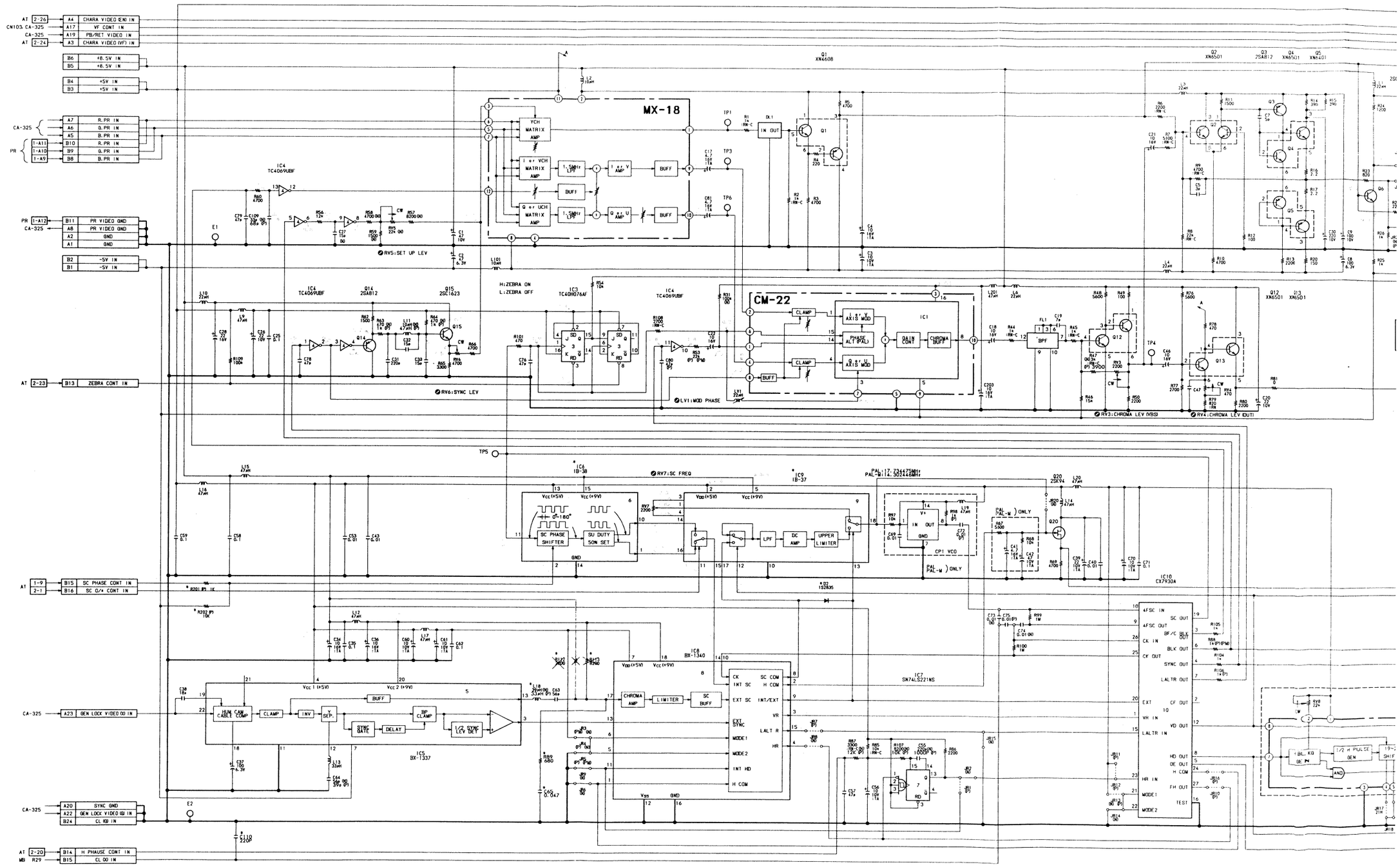
B21



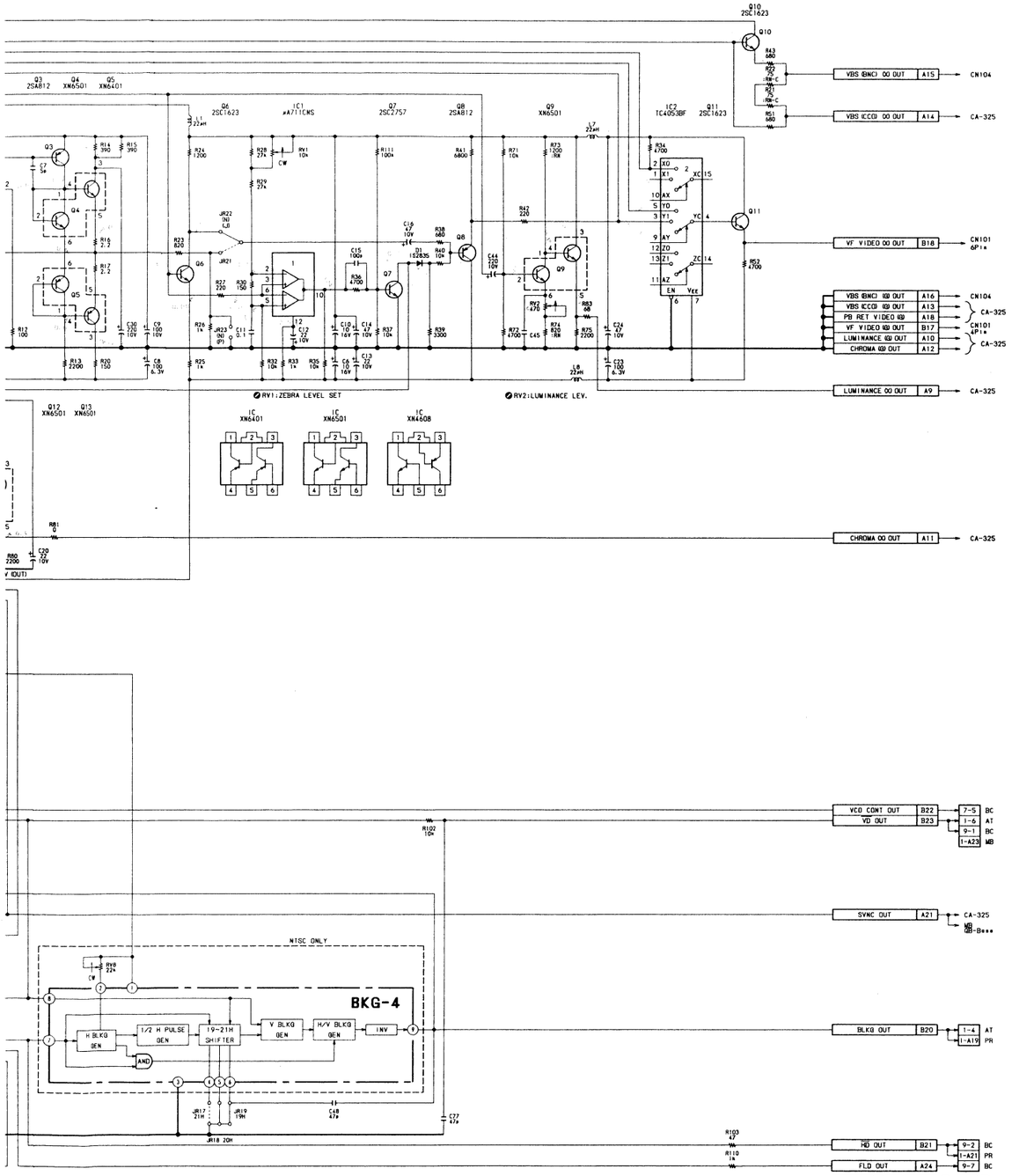
A24



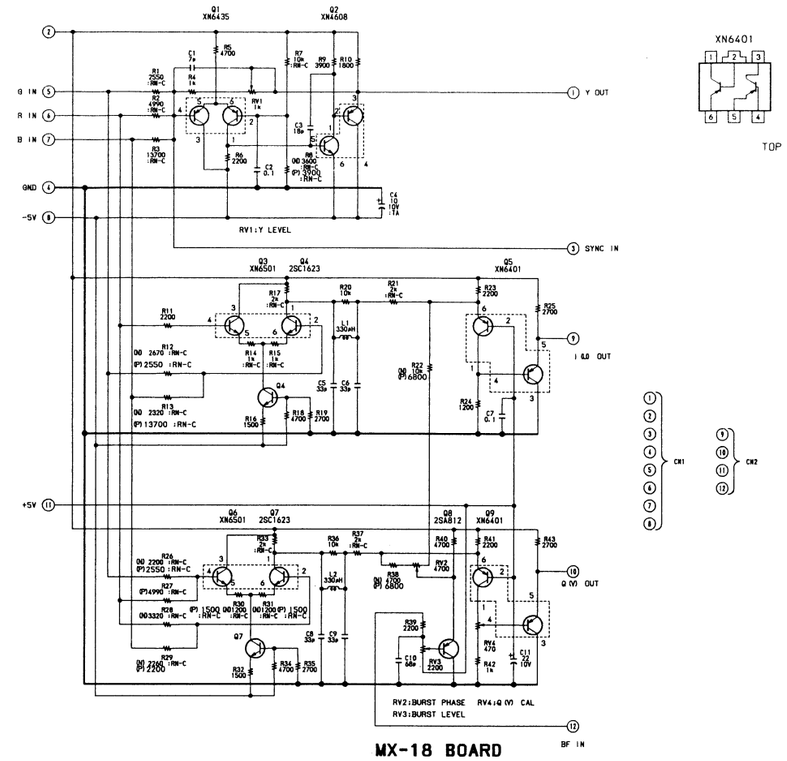
ES-1 BKG-4 CM-22 MX-18



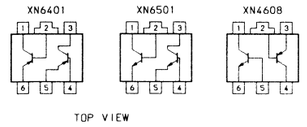
ES-1 BKG-4 CM-22 MX-18



ES-1 BOARD

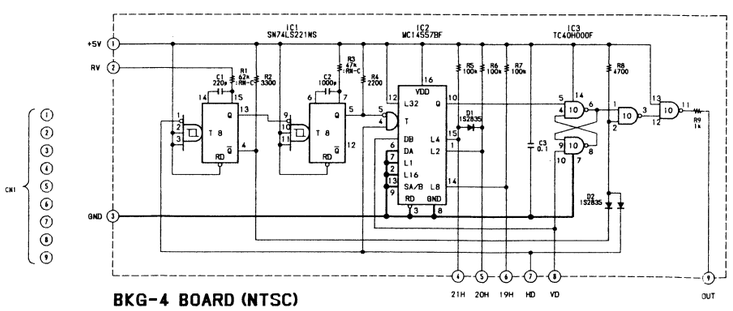


MX-18 BOARD

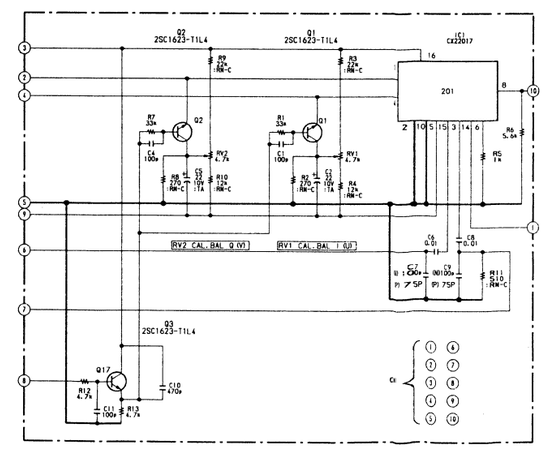


* NOTE

REF No	CHANGE INFORMATION	SER No
IC6	BX-1339A → IB-38	10921 - (UC) 30611 - (J) 41521 - (EK)
D2 C65 R89 R112 R113 L18 C110	1S2835 0.047 → ADD 680 → ADD 2.2K → DELETE 8.2K → DELETE 56MH → 39MH (NTSC) 22P → ADD	11271 and higher 30811 and higher 42081 and higher



BKG-4 BOARD (NTSC)



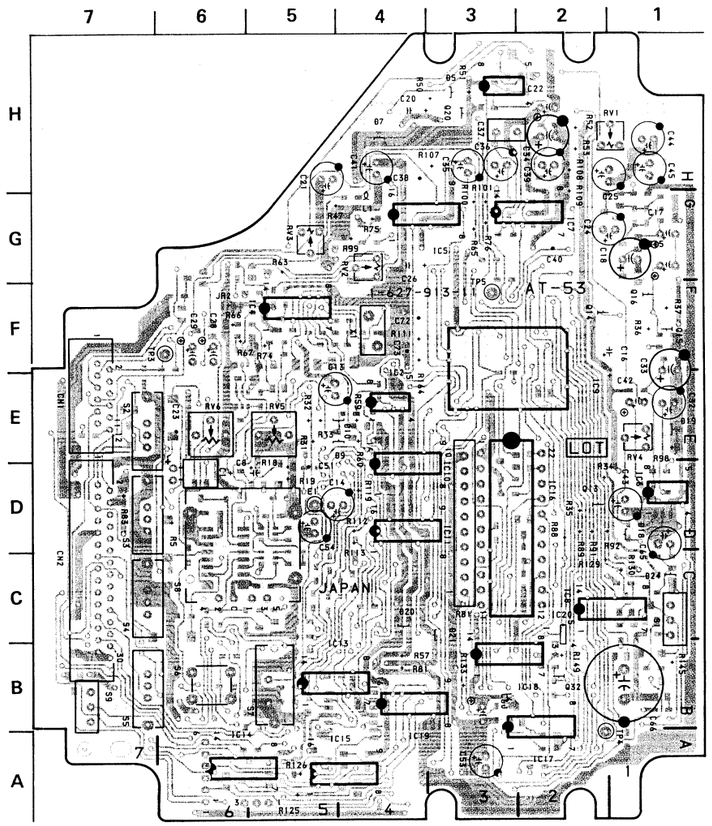
CM-22 BOARD

AT-53 BOARD

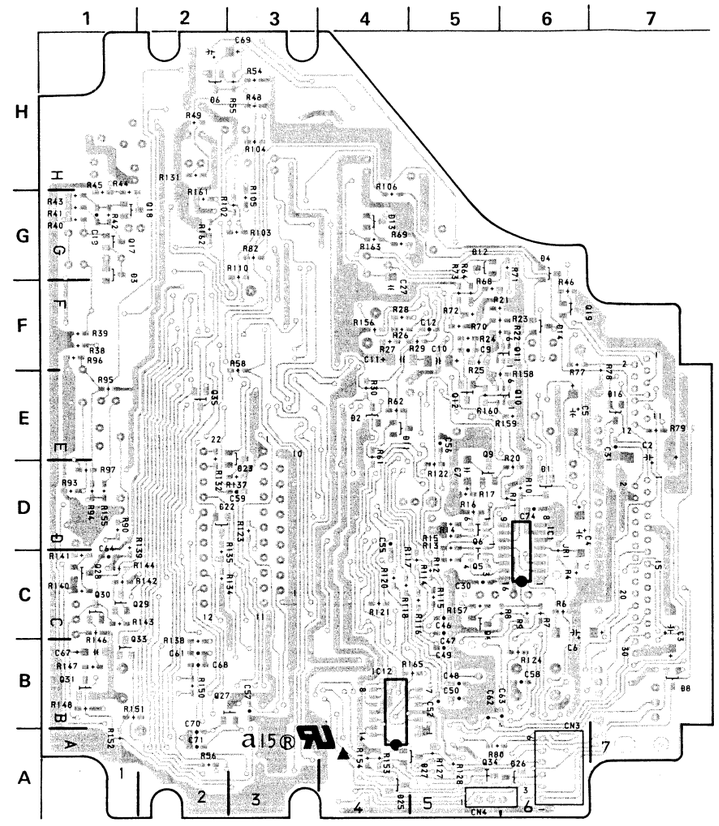
Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

AT-53 (1-627-913-11)

CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D3	G-1	Q13	D-2
D4	G-6	Q14	F-2
D5	H-3	Q15	F-1
D6	H-2	Q16	F-1
D7	H-4	Q17	G-1
D8	B-7	Q18	G-1
D9	E-4	Q19	F-6
D10	E-4	Q20	H-3
D11	E-4	Q27	B-2
D12	G-5	Q28	C-1
D13	G-4	Q29	C-1
D14	F-6	Q30	C-1
D16	E-7	Q31	B-1
D18	D-1	Q32	B-2
D19	E-1	Q33	B-1
D20	C-4	Q34	A-5
D21	C-3	Q35	E-2
D22	D-2		
D23	D-3	RB1	D-3
D24	C-1		
D25	A-4	RV1	H-1
D26	A-6	RV2	G-4
D27	A-5	RV3	G-5
		RV4	E-1
E1	D-5	RV5	E-5
		RV6	E-6
IC1	C-6		
IC2	E-4	S1	C-1
IC4	F-5	S2	E-7
IC5	G-3	S3	D-7
IC6	D-1	S4	C-7
IC7	G-2	S5	B-7
IC8	C-2	S6	B-6
IC10	D-4	S7	B-5
IC11	D-4	S8	C-6
IC12	B-4	S9	B-7
IC13	B-5		
IC14	A-6	TP3	F-6
IC15	A-4	TP4	A-2
IC16	D-3	TP5	F-3
IC17	B-2		
IC18	B-3	X1	F-4
IC19	B-4		
IC20	C-2		

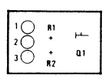


1-627-913-11 COMPONENT SIDE



1-627-913-11 SOLDERING SIDE

DUS-289 BOARD



AT-53 (1-627-913-11)

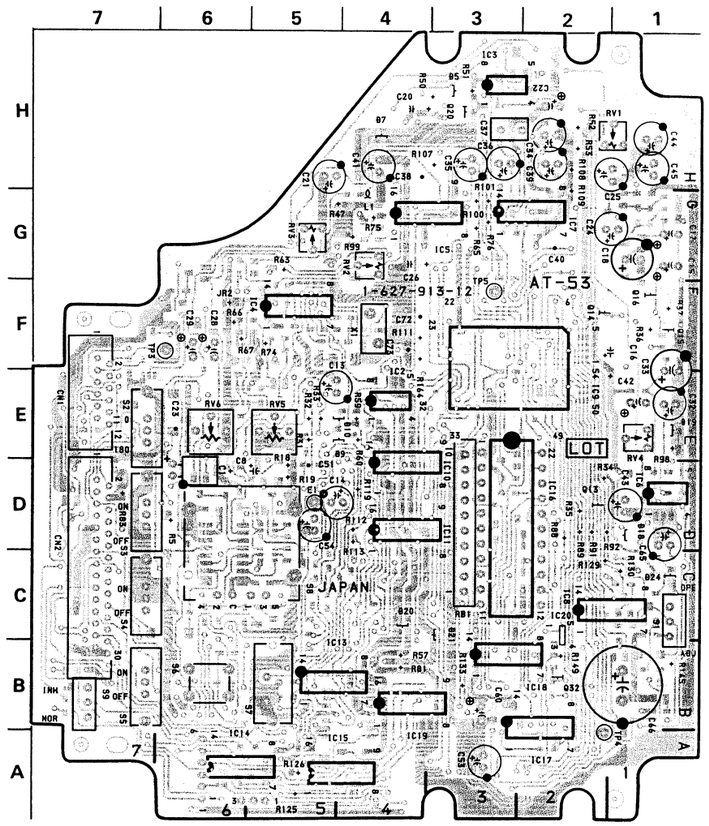
CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D3	G-1	Q13	D-2
D4	G-6	Q14	F-2
D5	H-3	Q15	F-1
D6	H-2	Q16	F-1
D7	H-4	Q17	G-1
D8	B-7	Q18	G-1
D9	E-4	Q19	F-6
D10	E-4	Q20	H-3
D11	E-4	Q27	B-2
D12	G-5	Q28	C-1
D13	G-4	Q29	C-1
D14	F-6	Q30	C-1
D16	E-7	Q31	B-1
D18	D-1	Q32	B-2
D19	E-1	Q33	B-1
D20	C-4	Q34	A-5
D21	C-3	Q35	E-2
D22	D-2		
D23	D-3	RB1	D-3
D24	C-1		
D25	A-4	RV1	H-1
D26	A-6	RV2	G-4
D27	A-5	RV3	G-5
		RV4	E-1
E1	D-5	RV5	E-5
		RV6	E-6
IC1	C-6		
IC2	E-4	S1	C-1
IC4	F-5	S2	E-7
IC5	G-3	S3	D-7
IC6	D-1	S4	C-7
IC7	G-2	S5	B-7
IC8	C-2	S6	B-6
IC10	D-4	S7	B-5
IC11	D-4	S8	C-6
IC12	B-4	S9	B-7
IC13	B-5		
IC14	A-6	TP3	F-6
IC15	A-4	TP4	A-2
IC16	D-3	TP5	F-3
IC17	B-2		
IC18	B-3	X1	F-4
IC19	B-4		
IC20	C-2		

AT-53 BOARD

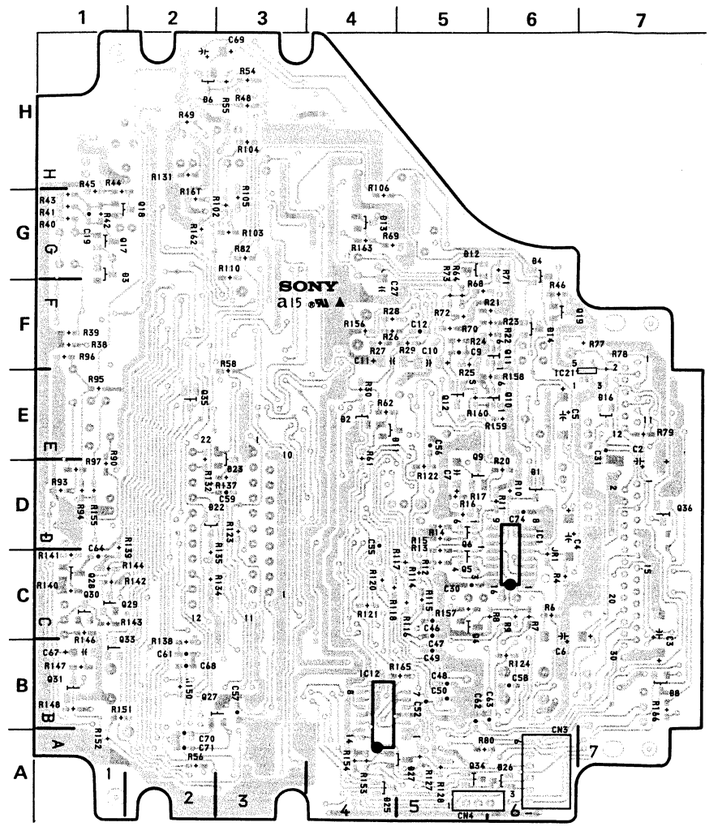
Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)

AT-53 (1-627-913-12)

CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D3	G-1	Q13	D-2
D4	G-6	Q14	F-2
D5	H-3	Q15	F-1
D6	H-2	Q16	F-1
D7	H-4	Q17	G-1
D8	B-7	Q18	G-1
D9	E-4	Q19	F-6
D10	E-4	Q20	H-3
D11	E-4	Q27	B-2
D12	G-5	Q28	C-1
D13	G-4	Q29	C-1
D14	F-6	Q30	C-1
D16	E-7	Q31	B-1
D18	D-1	Q32	B-2
D19	E-1	Q33	B-1
D20	C-4	Q34	A-5
D21	C-3	Q35	E-2
D22	D-2		
D23	D-3	RB1	D-3
D24	C-1		
D25	A-4	RV1	H-1
D26	A-6	RV2	G-4
D27	A-5	RV3	G-5
		RV4	E-1
E1	D-5	RV5	E-5
		RV6	E-6
IC1	C-6		
IC2	E-4	S1	C-1
IC4	F-5	S2	E-7
IC5	G-3	S3	D-7
IC6	D-1	S4	C-7
IC7	G-2	S5	B-7
IC8	C-2	S6	B-6
IC10	D-4	S7	B-5
IC11	D-4	S8	C-6
IC12	B-4	S9	B-7
IC13	B-5		
IC14	A-6	TP3	F-6
IC15	A-4	TP4	A-2
IC16	D-3	TP5	F-3
IC17	B-2		
IC18	B-3	X1	F-4
IC19	B-4		
IC20	C-2		



1-627-913-12 COMPONENT SIDE

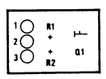


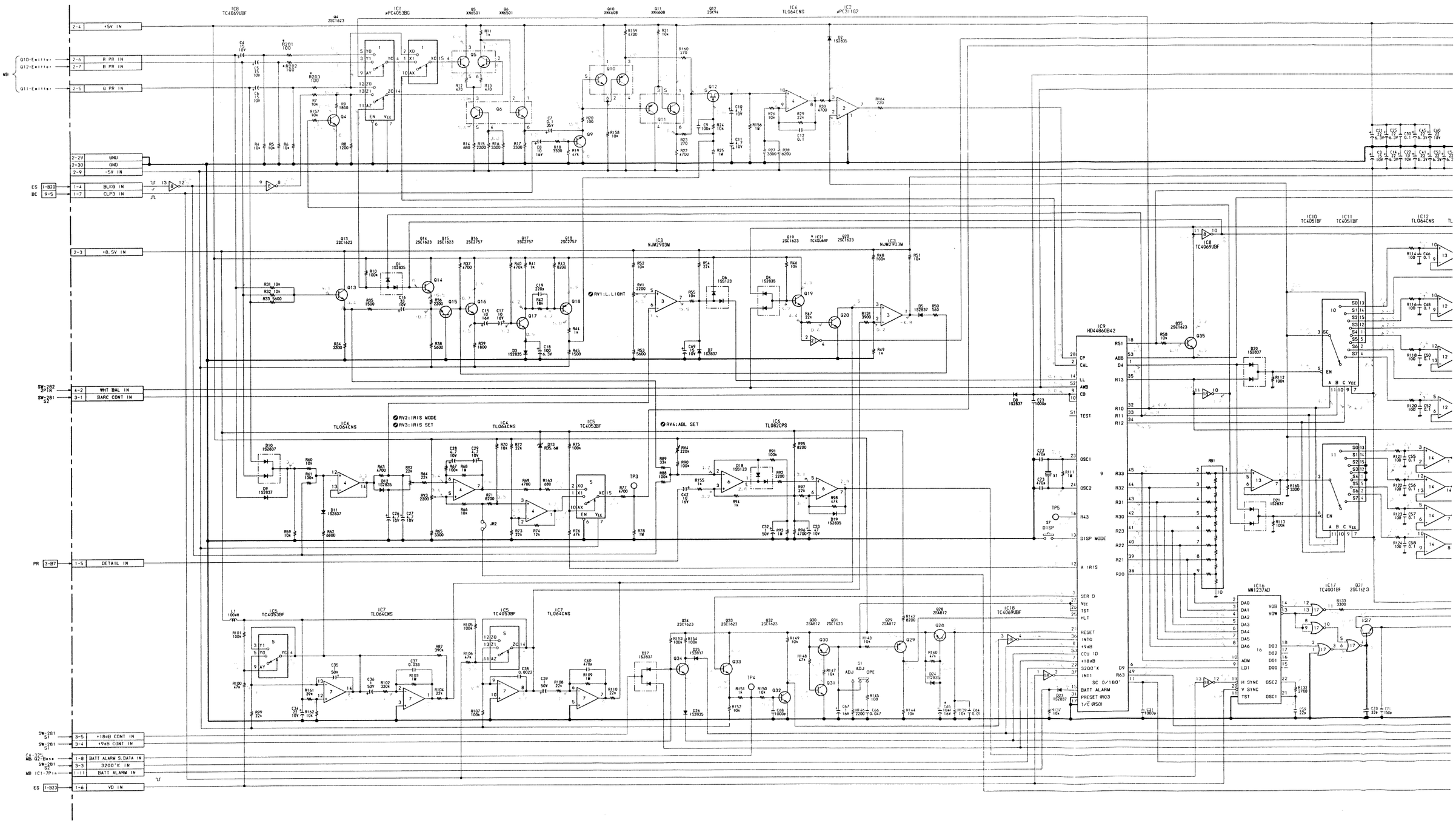
1-627-913-12 SOLDERING SIDE

AT-53 (1-627-913-12)

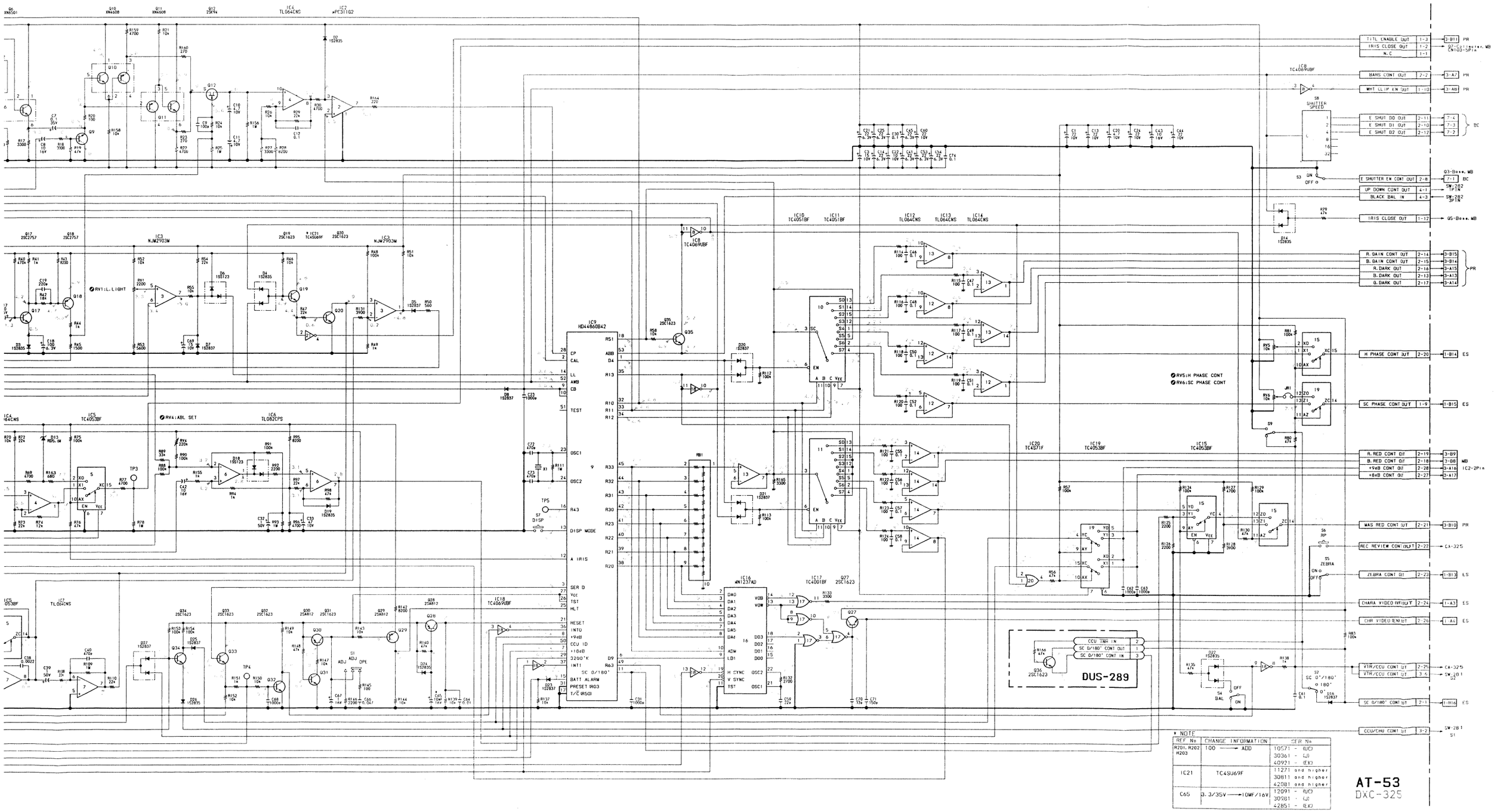
CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D4	G-6	Q13	D-2
D5	H-3	Q14	F-2
D6	H-2	Q15	F-1
D7	H-4	Q16	F-1
D8	B-7	Q17	G-1
D9	E-4	Q18	G-1
D10	E-4	Q19	F-6
D11	E-4	Q20	H-3
D12	G-5	Q27	B-2
D13	G-4	Q28	C-1
D14	F-6	Q29	C-1
D16	E-7	Q30	C-1
D18	D-1	Q31	B-1
D19	E-1	Q32	B-2
D20	C-4	Q33	B-1
D21	C-3	Q34	A-5
D22	D-2	Q35	E-2
D23	D-3	Q36	D-7
D24	C-1		
D25	A-4	RB1	D-3
D26	A-6		
D27	A-5	RV1	H-1
		RV2	G-4
E1	D-5	RV3	G-5
		RV4	E-1
IC1	C-6	RV5	E-5
IC2	E-4	RV6	E-6
IC3	H-3		
IC4	F-5	S1	C-1
IC5	G-3	S2	E-7
IC6	D-1	S3	D-7
IC7	G-2	S4	C-7
IC8	C-2	S5	B-7
IC9	E-3	S6	B-6
IC10	D-4	S7	B-5
IC11	D-4	S8	C-6
IC12	B-4	S9	B-7
IC13	B-5		
IC14	A-6	TP3	F-6
IC15	A-4	TP4	A-2
IC16	D-3	TP5	F-3
IC17	B-2		
IC18	B-3	X1	F-4
IC19	B-4		
IC20	C-2		
IC21	F-7		

DUS-289 BOARD




+5V IN
R PR IN
B PR IN
G PR IN
GND
-5V IN
BLKG IN
CLP3 IN
+8.5V IN
WHT BAL IN
BARC CONT IN
DETAIL IN
+18dB CONT IN
+9dB CONT IN
3200°K IN
BATT ALARM IN
VD IN
RV1:L.LIGHT
RV2:IRIS MODE
RV3:IRIS SET
RV4:ABL SET
IC9 HD44860B42
IC16 MN1237AD
IC17 TC4001BF
IC18 TC4069UBF
IC10 TC4051BF
IC11 TC4051BF
IC12 TL064CNS
IC8 TC4069UBF
DISP MODE
A IRIS
BATT ALARM
PRESET 9K03
T/C 9K50

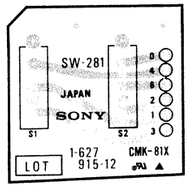
J, UC)
(EK)



* NOTE		
REF No	CHANGE INFORMATION	SER No
R201, R202 R203	100 ⟶ ADD	10571 - (UC) 30361 - (J) 40921 - (EK)
IC21	TC4S69F	11271 and higher 30811 and higher 42081 and higher
C65	3.3/35V ⟶ 10MF/16V	12091 - (UC) 30981 - (J) 42851 - (EK)

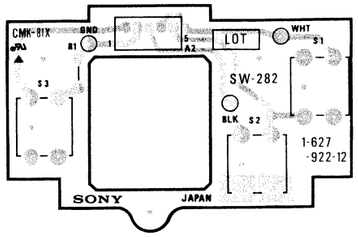
AT-53
DXC-325

SW-281 BOARD



1-627-915-11, 12 COMPONENT SIDE

SW-282 BOARD



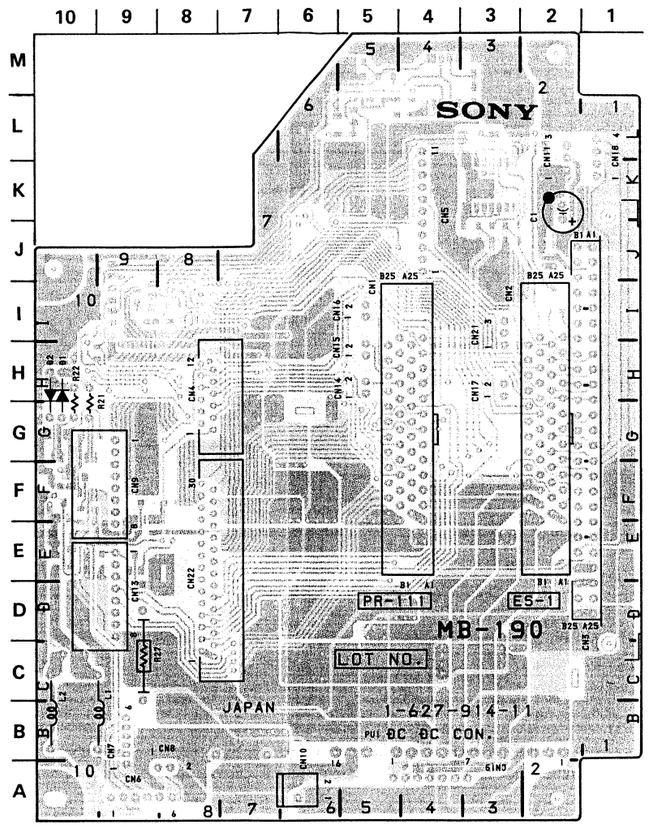
1-627-922-11, 12 COMPONENT SIDE

MB-190 BOARD

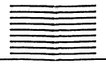
Ser.No.10001-10250 (UC)
30001-30150 (J)
40001-40350 (EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9



1-627-914-11 COMPONENT SIDE



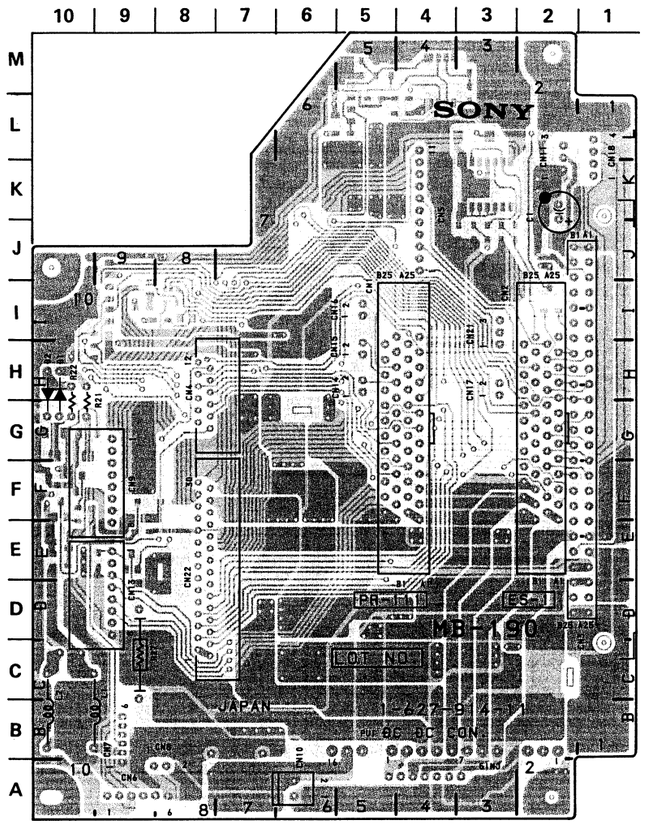
FRAME MB-190 SW-281, SW-282

MB-190 BOARD

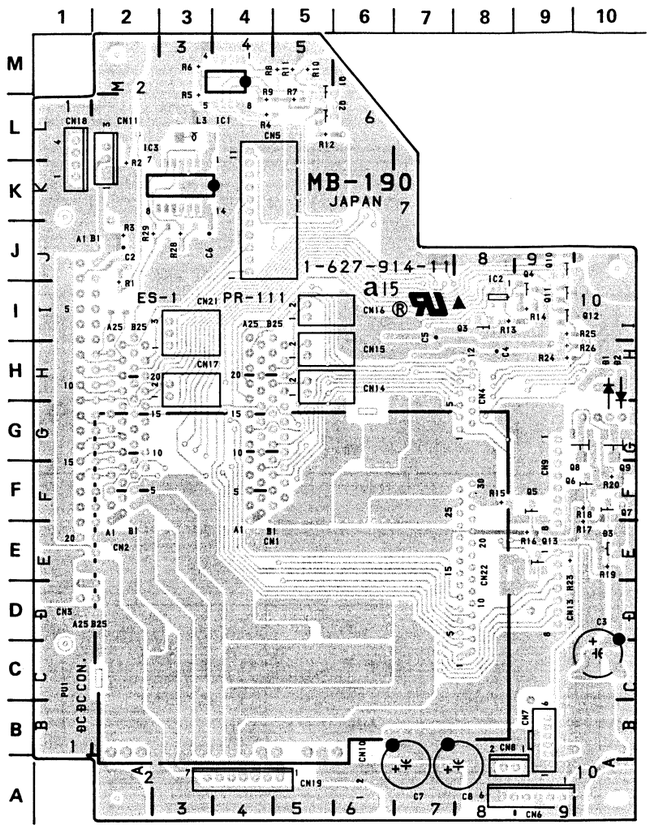
Ser.No.10001-10250 (UC)
30001-30150 (J)
40001-40350 (EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9



1-627-914-11 COMPONENT SIDE

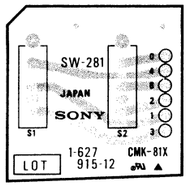


1-627-914-11 SOLDERING SIDE

MB-190 (1-627-914-11,12)

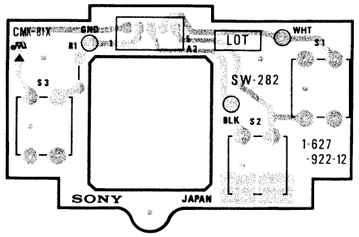
CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9

SW-281 BOARD



1-627-915-11, 12 COMPONENT SIDE

SW-282 BOARD



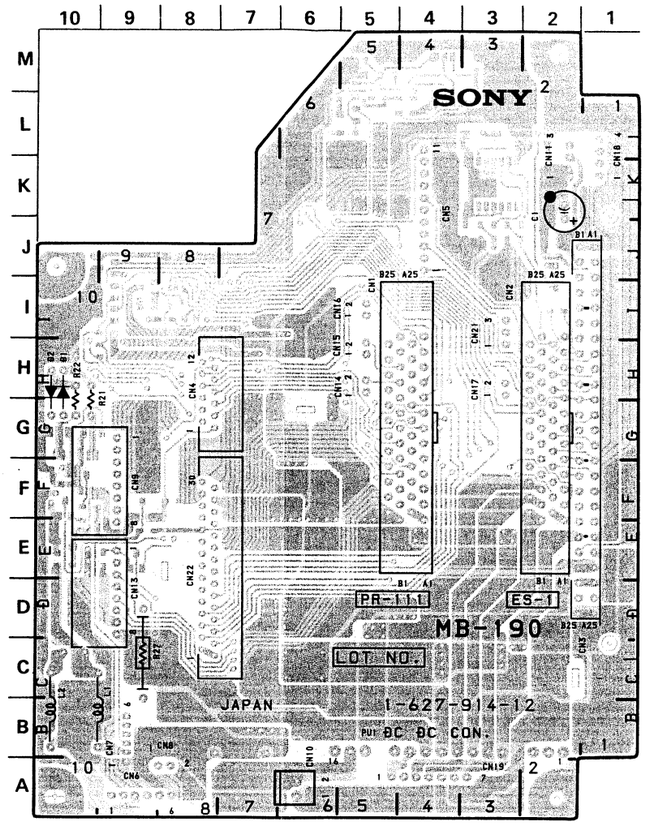
1-627-922-11, 12 COMPONENT SIDE

MB-190 BOARD

Ser.No.10251-		(UC)
30151-		(J)
40351-		(EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9



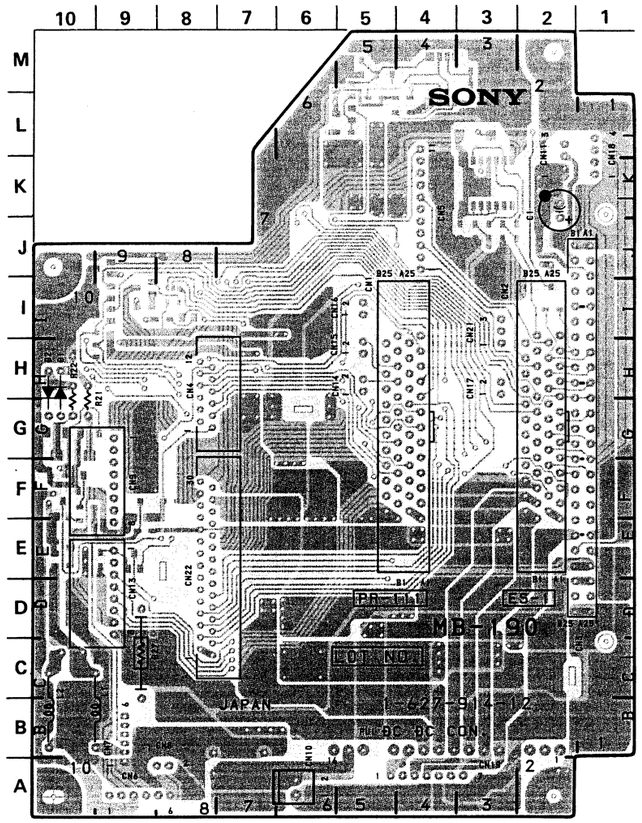
1-627-914-12 COMPONENT SIDE

MB-190 BOARD

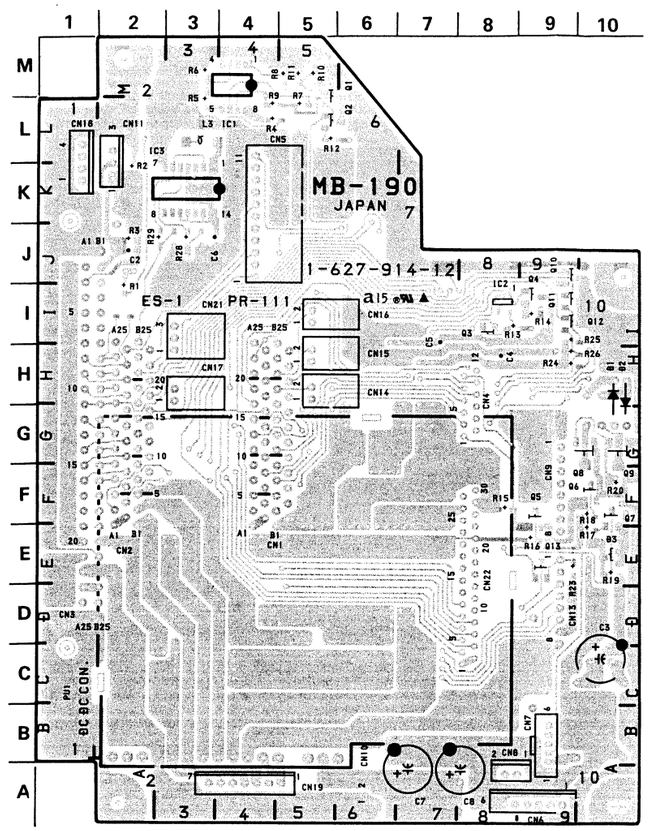
Ser.No.10251-		(UC)
30151-		(J)
40351-		(EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9



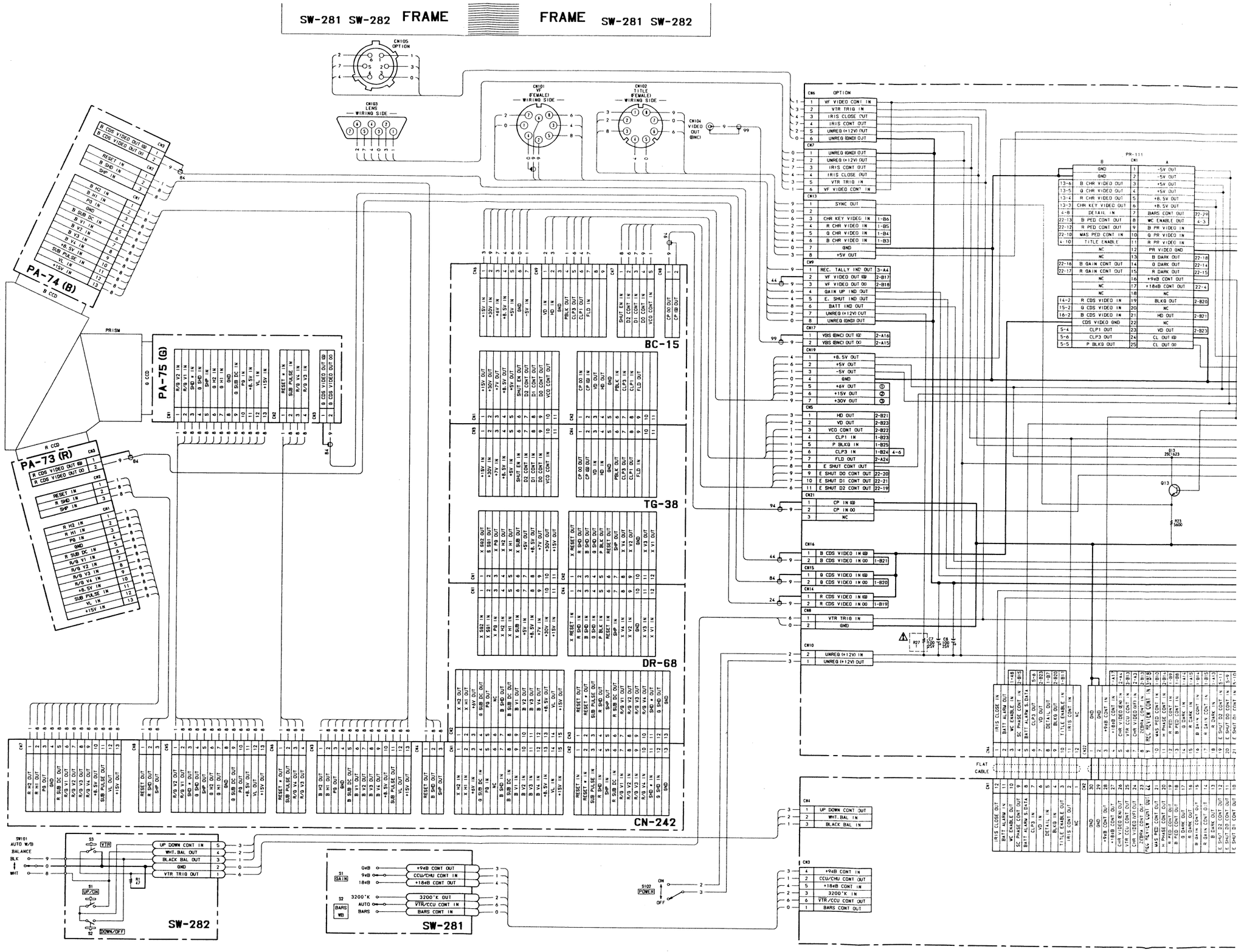
1-627-914-12 COMPONENT SIDE



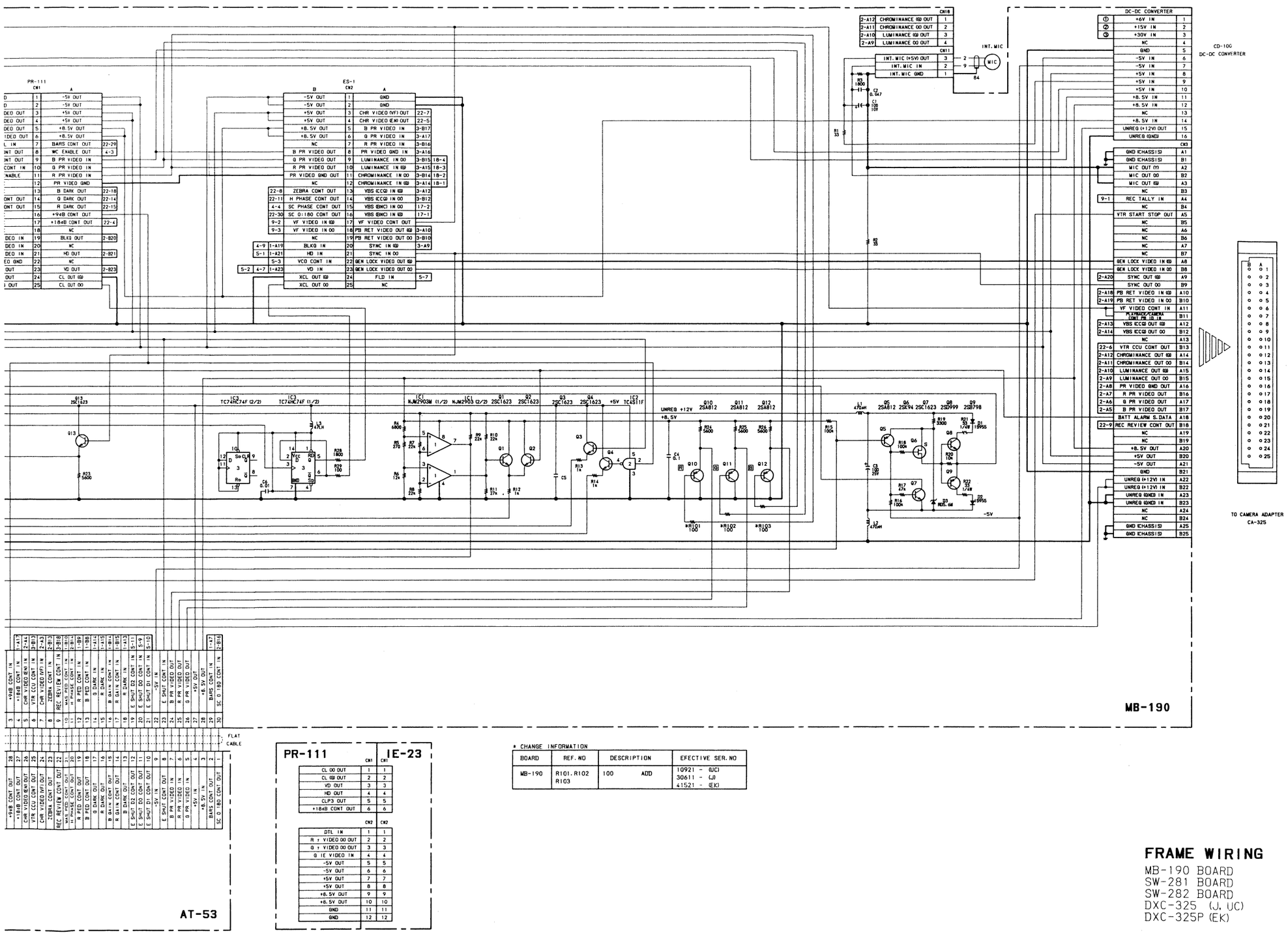
1-627-914-12 SOLDERING SIDE

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9



DXC-325 (J, UC)
DXC-325P (EK)



PR-111 CN1		A
D	1	-5V OUT
D	2	-5V OUT
DEO OUT	3	+5V OUT
DEO OUT	4	+5V OUT
DEO OUT	5	+8.5V OUT
IDEO OUT	6	+8.5V OUT
L IN	7	BARS CONT OUT (22-29)
NT OUT	8	WC ENABLE OUT (4-3)
NT OUT	9	B PR VIDEO IN
CONT IN	10	G PR VIDEO IN
NABLE	11	R PR VIDEO IN
	12	PR VIDEO GND
	13	B DARK OUT (22-18)
ONT OUT	14	G DARK OUT (22-14)
ONT OUT	15	R DARK OUT (22-15)
	16	+9dB CONT OUT
	17	+18dB CONT OUT (22-4)
	18	NC
DEO IN	19	BLKG OUT (2-B20)
DEO IN	20	NC
DEO IN	21	HD OUT (2-B21)
EO GND	22	NC
OUT	23	VD OUT (2-B23)
OUT	24	CL OUT (GI)
I OUT	25	CL OUT OO

ES-1 CN2		B		A	
	1	-5V OUT	1	GND	
	2	-5V OUT	2	GND	
	3	+5V OUT	3	CHR VIDEO (VF) OUT	22-7
	4	+5V OUT	4	CHR VIDEO (EW) OUT	22-5
	5	+8.5V OUT	5	B PR VIDEO IN	3-B17
	6	+8.5V OUT	6	G PR VIDEO IN	3-A17
	7	NC	7	R PR VIDEO IN	3-B16
	8	B PR VIDEO OUT	8	PR VIDEO GND IN	3-A16
	9	G PR VIDEO OUT	9	LUMINANCE IN OO	3-B15 (18-4)
	10	R PR VIDEO OUT	10	LUMINANCE IN (GI)	3-A15 (18-3)
	11	PR VIDEO GND OUT	11	CHROMINANCE IN OO	3-B14 (18-2)
	12	NC	12	CHROMINANCE IN (GI)	3-A14 (18-1)
22-8	13	ZEBRA CONT OUT	13	VBS (CCU) IN (GI)	3-A12
22-11	14	H PHASE CONT OUT	14	VBS (CCU) IN OO	3-B12
4-4	15	SC PHASE CONT OUT	15	VBS (GNC) IN OO	17-2
22-30	16	SC 0/180 CONT OUT	16	VBS (GNC) IN (GI)	17-1
9-2	17	VF VIDEO IN (GI)	17	VF VIDEO CONT OUT	
9-3	18	VF VIDEO IN OO	18	PB RET VIDEO OUT (GI)	3-A10
	19	NC	19	PB RET VIDEO OUT OO	3-B10
4-9 1-A19	20	BLKG IN	20	SYNC IN (GI)	3-A9
5-1 1-A21	21	HD IN	21	SYNC IN OO	
5-3	22	VCO CONT IN	22	GEN LOCK VIDEO OUT (GI)	
5-2 4-7 1-A23	23	VD IN	23	GEN LOCK VIDEO OUT OO	
	24	XCL OUT (GI)	24	FLD IN	5-7
	25	XCL OUT OO	25	NC	

CN10		
2-A12	CHROMINANCE (GI) OUT	1
2-A11	CHROMINANCE OO OUT	2
2-A10	LUMINANCE (GI) OUT	3
2-A9	LUMINANCE OO OUT	4

CN11		
	INT. MIC (+5V) OUT	3
	INT. MIC IN	2
	INT. MIC GND	1

DC-DC CONVERTER		
①	+6V IN	1
②	+15V IN	2
③	+30V IN	3
	NC	4
	GND	5
	-5V IN	6
	-5V IN	7
	+5V IN	8
	+5V IN	9
	+5V IN	10
	+8.5V IN	11
	+8.5V IN	12
	NC	13
	+8.5V IN	14
	UNREG (+12V) OUT	15
	UNREG (GND)	16

CN3		
	GND (CHASSIS)	A1
	GND (CHASSIS)	B1
	MIC OUT (Y)	A2
	MIC OUT OO	B2
	MIC OUT (GI)	A3
	NC	B3
9-1	REC TALLY IN	A4
	NC	B4
	VTR START STOP OUT	A5
	NC	B5
	NC	A6
	NC	B6
	NC	A7
	NC	B7
	GEN LOCK VIDEO IN (GI)	A8
	GEN LOCK VIDEO IN OO	B8
2-A20	SYNC OUT (GI)	A9
	SYNC OUT OO	B9
2-A18	PB RET VIDEO IN (GI)	A10
2-A19	PB RET VIDEO IN OO	B10
	VF VIDEO CONT IN	A11
	PLAYBACK/CAMERA CONT PB IN 1K	B11
2-A13	VBS (CCU) OUT (GI)	A12
2-A14	VBS (CCU) OUT OO	B12
	NC	A13
22-6	VTR CCU CONT OUT	B13
2-A12	CHROMINANCE OUT (GI)	A14
2-A11	CHROMINANCE OUT OO	B14
2-A10	LUMINANCE OUT (GI)	A15
2-A9	LUMINANCE OUT OO	B15
2-A8	PR VIDEO GND OUT	A16
2-A7	R PR VIDEO OUT	B16
2-A6	G PR VIDEO OUT	A17
2-A5	B PR VIDEO OUT	B17
	BATT ALARM S.DATA	A18
22-9	REC REVIEW CONT OUT	B18
	NC	A19
	NC	B19
	+8.5V OUT	A20
	+5V OUT	B20
	-5V OUT	A21
	GND	B21
	UNREG (+12V) IN	A22
	UNREG (+12V) IN	B22
	UNREG (GND) IN	A23
	UNREG (GND) IN	B23
	NC	A24
	NC	B24
	GND (CHASSIS)	A25
	GND (CHASSIS)	B25

AT-53		
+9dB CONT OUT	29	1
+18dB CONT OUT	27	2
CHR VIDEO (EW) OUT	26	3
VTR CCU CONT OUT	25	4
CHR VIDEO (VF) OUT	24	5
ZEBRA CONT OUT	23	6
REC REVIEW CONT OUT	22	7
WAVEFORM CONT OUT	20	8
B PED CONT OUT	19	9
R PED CONT OUT	18	10
G DARK OUT	17	11
B DARK OUT	16	12
R DARK OUT	14	13
R GAIN CONT OUT	13	14
B DARK OUT	12	15
E SHUT D2 CONT OUT	11	16
E SHUT D0 CONT OUT	10	17
E SHUT D1 CONT OUT	9	18
+5V IN	8	19
E SHUT CONT OUT	7	20
B PR VIDEO IN	6	21
R PR VIDEO IN	5	22
G PR VIDEO IN	4	23
+5V IN	3	24
+8.5V IN	2	25
BARS CONT OUT	1	26
SC 0/180 CONT IN	2-B16	27
+9dB CONT IN	1-A17	28
+18dB CONT IN	1-A18	29
CHR VIDEO (EW) IN	2-A4	30
VTR CCU CONT IN	3-B13	31
CHR VIDEO (VF) IN	2-A3	32
ZEBRA CONT IN	2-B13	33
REC REVIEW CONT IN	2-B18	34
WAVEFORM CONT IN	2-B19	35
B PED CONT IN	1-B9	36
R PED CONT IN	1-B8	37
G DARK IN	1-A14	38
B DARK IN	1-A15	39
R DARK IN	1-B14	40
R GAIN CONT IN	1-B15	41
B DARK IN	1-A13	42
E SHUT D2 CONT IN	5-11	43
E SHUT D0 CONT IN	5-9	44
E SHUT D1 CONT IN	5-10	45
+5V IN	2-A1	46
BARS CONT IN	2-B14	47

PR-111 CN1		IE-23 CN1
CL OO OUT	1	1
CL (GI) OUT	2	2
VD OUT	3	3
HD OUT	4	4
CLP3 OUT	5	5
+18dB CONT OUT	6	6

	CN2	CN2
DTL IN	1	1
R Y VIDEO OO OUT	2	2
G Y VIDEO OO OUT	3	3
G IE VIDEO IN	4	4
-5V OUT	5	5
-5V OUT	6	6
+5V OUT	7	7
+5V OUT	8	8
+8.5V OUT	9	9
+8.5V OUT	10	10
GND	11	11
GND	12	12

* CHANGE INFORMATION

BOARD	REF. NO	DESCRIPTION	EFECTIVE SER. NO
MB-190	R101. R102 R103	100 ADD	10921 - (UC) 30611 - (J) 41521 - (EK)

FRAME WIRING

MB-190 BOARD
SW-281 BOARD
SW-282 BOARD
DXC-325 (J, UC)
DXC-325P (EK)

SECTION D
SPARE PARTS

D-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ! on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "**accommodating the improved parts and/or engineering changes**" or "**standardization of genuine parts.**" This manual's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer SONY service bulletions and service manual supplements.

3. **The parts marked with "S" in the SP column** of the exploded views and electical spare parts list are nomally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

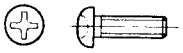
5. **Abbreviation**

REF.No.	DESCRIPTION	REF.No.	DESCRIPTION	REF.No.	DESCRIPTION
C	CAPACITOR	IC	IC	RP	RESISTOR BLOCK
CN	CONNECTOR	J	JACK	RV	VARIABLE RESISTOR
CV	VARIABLE CAPACITOR	L	INDUCTOR	S	SWITCH
D	DIODE	LV	VARIABLE INDUCTOR	T	TRANSFORMER
DL	DELAY LINE	Q	TRANSISTOR	X	OSCILLATOR
FL	FILTER	R	RESISTOR		

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

D-2. SCREWS

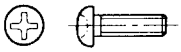
+B
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-00
x 4	772-10
x 5	772-20
x 6	772-30
x 8	772-40
x 10	772-50
x 12	772-60
x 14	772-70
x 16	772-80
x 20	–
2.6 x 3	775-00
x 4	775-10
x 5	775-20
x 6	773-95
x 8	775-40
x 10	775-50
x 12	775-60
x 14	775-70
x 16	775-80
x 20	775-90

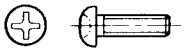
+B
Cr-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

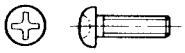
+B
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
x 30	555-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09
5 x 8	574-09
x 10	575-09
x 12	576-09
x 14	577-09
x 16	578-09
x 20	579-09

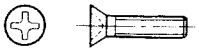
+B
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-04
x 4	545-04
x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
x 12	563-04
x 14	564-04
x 16	565-04
x 20	566-04
5 x 8	574-04
x 10	575-04
x 12	576-04
x 14	577-04
x 16	578-04
x 20	579-04

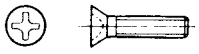
+K
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-04
x 5	246-04
x 6	247-04
x 8	248-04
x 10	249-04
x 12	250-04
x 14	251-04
x 16	252-04
x 20	253-04
4 x 6	260-04
x 8	261-04
x 10	262-04
x 12	263-04
x 14	264-04
x 16	265-04
x 20	266-04

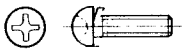
PRECISION +K
Bzn-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.8	–
x 2	450-28
x 2.2	–
x 2.5	450-48
x 2.8	–
x 3	450-58
x 3.5	–
x 4	450-78
x 4.5	–
x 5	450-98
x 5.5	–
x 6	–
2 x 2	452-08
x 2.2	452-88
x 2.5	452-48
x 2.8	–
x 3	452-18
x 3.5	452-98
x 4	452-28
x 4.5	–
x 5	452-38
x 5.5	–
x 6	452-58
x 7	452-68
x 8	452-78
2.6 x 3.5	–
x 4	–
x 4.5	454-28
x 5	454-38
x 5.5	–
x 6	–
x 7	–
x 8	–

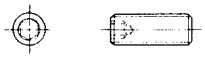
PRECISION +P
Bzn-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	552-18
x 1.8	–
x 2	552-28
x 2.2	–
x 2.5	552-08
x 2.8	–
x 3	552-38
x 3.5	552-78
x 4	552-48
x 4.5	–
x 5	552-58
x 5.5	–
x 6	–
2 x 1.8	554-38
x 2	553-18
x 2.2	–
x 2.5	553-28
x 2.8	554-58
x 3	553-38
x 3.5	554-18
x 4	553-48
x 4.5	553-58
x 5	554-28
x 5.5	–
x 6	553-68
x 7	553-88
x 8	553-98
x 10	553-78
2.6 x 2.8	556-08
x 3	–
x 3.5	556-28
x 4	556-38
x 4.5	556-48
x 5	556-58
x 5.5	–
x 6	556-78
x 7	–
x 8	–
x 9	–
x 10	–

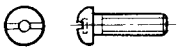
HEXAGON SET SCREW (FLAT)
SNCM6-PD



7-621-□□□-□□

SIZE	Parts No.
2 x 2.5	731-08
2 x 3	732-08
2 x 4	733-08
2 x 5	–
2 x 6	–
2.6 x 3	737-08
2.6 x 4	738-08
2.6 x 5	739-08
2.6 x 6	740-08

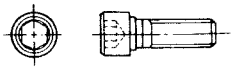
TOTSU B
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	911-00
x 4	911-10
x 6	911-30
x 8	911-40
2.6 x 3	912-00
x 4	912-10
x 5	912-20
x 6	912-30
x 8	912-40
x 10	912-50
x 12	912-60
x 14	912-70
x 16	912-80
x 20	912-90

BOLT, HEXAGON SOCKET
SNCM6 BZn-N4



7-683-□□□-□□

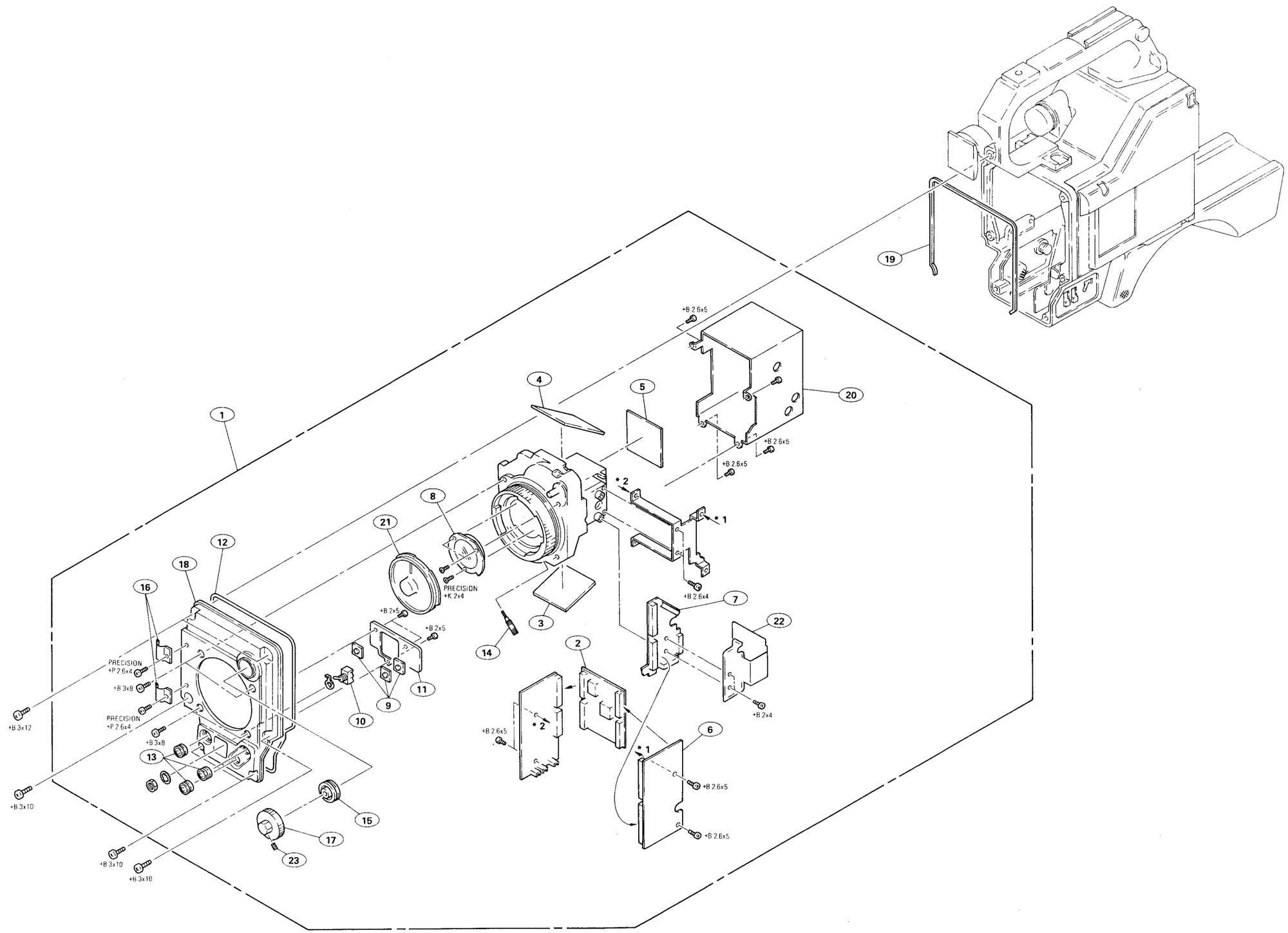
SIZE	Parts No.
3 x 4	401-04
3 x 5	402-04
3 x 6	403-04
3 x 8	404-04
3 x 10	405-04
3 x 12	406-04
3 x 14	407-04
3 x 16	408-04
3 x 20	410-04
4 x 5	417-04
4 x 6	418-04
4 x 8	419-04
4 x 10	420-04
4 x 12	421-04
4 x 14	422-04
4 x 16	423-04
4 x 20	425-04
4 x 25	427-04
5 x 8	434-04
5 x 10	435-04
5 x 12	436-04
5 x 14	437-04
5 x 16	438-04
5 x 20	440-04
5 x 25	442-04
5 x 30	444-04
5 x 50	447-04
6 x 10	452-04
6 x 12	453-04
6 x 14	454-04
6 x 16	455-04
6 x 20	457-04
6 x 25	459-04
6 x 30	461-04
6 x 35	463-04
6 x 40	465-04
6 x 45	466-04
6 x 55	468-04
8 x 12	470-04
8 x 14	471-04
8 x 16	472-04
8 x 20	473-04
8 x 25	474-04
8 x 30	475-04
8 x 35	476-04
8 x 40	477-04
8 x 45	478-04
8 x 50	479-04

D-3. EXPLODED VIEW

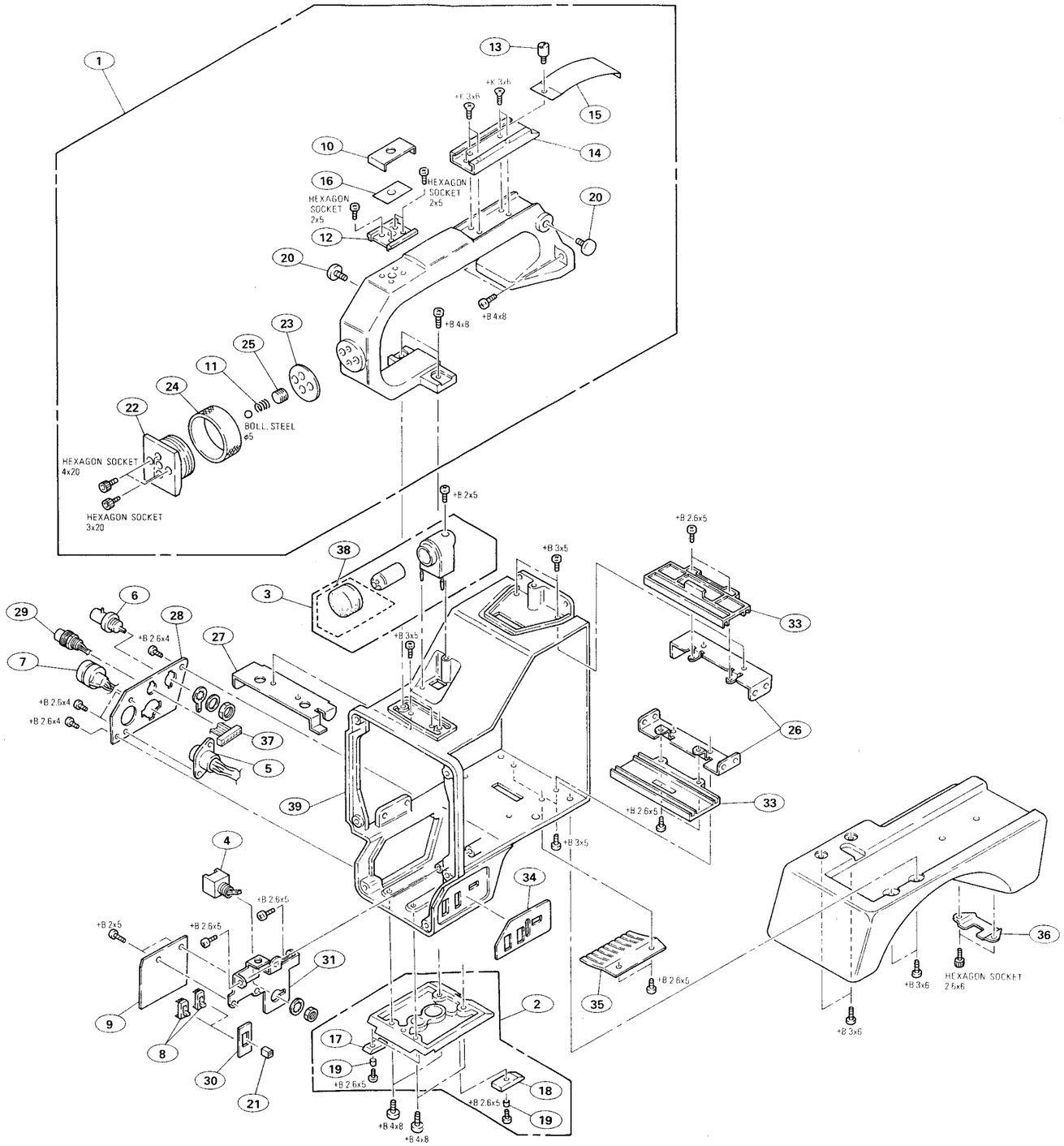
[CCD BLOCK]

No.	Parts No.	SP	Description
1	A-7575-123-A	s	CCD UNIT ASSY (N)
	A-7575-124-A	s	CCD UNIT ASSY (P)
2	A-7513-829-A	o	MOUNTED CIRCUIT BOARD (N) "TG-38"
	Ser No. 10001		to 11720(UC)
	30001		to 30840(J)
	40001		to 42530(EK)
	A-7515-001-A	o	MOUNTED CIRCUIT BOARD (N) "TG-38"
	Ser No. 11721		and higher(UC)
	30841		and higher(J)
	42531		and higher(EK)
	A-7513-830-A	o	MOUNTED CIRCUIT BOARD (P) "TG-38"
	Ser No. 10001		to 11720(UC)
	30001		to 30840(J)
	40001		to 42530(EK)
	A-7513-998-A	o	MOUNTED CIRCUIT BOARD (P) "TG-38"
	Ser No. 11721		and higher(UC)
	30841		and higher(J)
	42531		and higher(EK)
3	A-7513-831-A	s	MOUNTED CIRCUIT BOARD "PA-73"
4	A-7513-832-A	s	MOUNTED CIRCUIT BOARD "PA-74"
5	A-7513-833-A	s	MOUNTED CIRCUIT BOARD "PA-75"
6	A-7513-835-A	s	MOUNTED CIRCUIT BOARD "DR-68"
	Ser No. 10001		to 11720(UC)
	30001		to 30840(J)
	40001		to 42530(EK)
	A-7513-997-A	o	MOUNTED CIRCUIT BOARD "DR-68"
	Ser No. 11721		and higher(UC)
	30841		and higher(J)
	42531		and higher(EK)
7	A-7513-836-A	s	MOUNTED CIRCUIT BOARD "CN-242"
8	1-547-301-11	o	FILTER UNIT, OPTICAL
	Ser No. 10001		to 10570(UC)
	40001		to 40920(EK)
	1-547-301-12	o	FILTER UNIT, OPTICAL
	Ser No. 10571		and higher(UC)
	40921		and higher(EK)
9	1-553-739-21	s	SWITCH, KEY BOARD "VTR" "UP/ON"
10	1-554-486-00	s	SWITCH, TOGGLE "AUTO W/B BAL"
11	1-627-922-11	s	PRINTED CIRCUIT BOARD "SW-282"
12	3-672-253-11	o	RUBBER, CONDUCTIVE
13	3-676-244-00	s	COVER, SWITCH
14	3-678-629-00	s	LEVER, MOUNT
15	3-678-632-00	o	PACKING, KNOB
16	3-678-684-00	o	HOLDER, CABLE
17	3-699-047-01	s	KNOB, FILTER
18	3-699-106-01	o	PANEL, FRONT
19	3-699-112-01	o	LABEL, RED
20	3-699-133-01	o	COVER, BLOCK SHIELD
21	3-699-144-01	s	CAP, MOUNT
22	3-699-146-01	o	PLATE, BLOCK SHIELD
23	3-701-506-01	s	SET SCREW, DUBLE POINT 3x4

CCD BLOCK


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
+B 2.6x5
+B 2.6x5
+B 2.6x5
+B 2.6x4
+B 2x5
+B 2x5
+B 2x4
+B 2.6x5
+B 2.6x5
+B 2.6x5
PRECISION
+K 2x4
PRECISION
+P 2.6x4
+B 3x8
PRECISION
+P 2.6x4
+B 3x8
+B 3x12
+B 3x10
+B 3x10
+B 3x10
* 1
* 2
* 1
* 2

CHASSIS(1) BLOCK



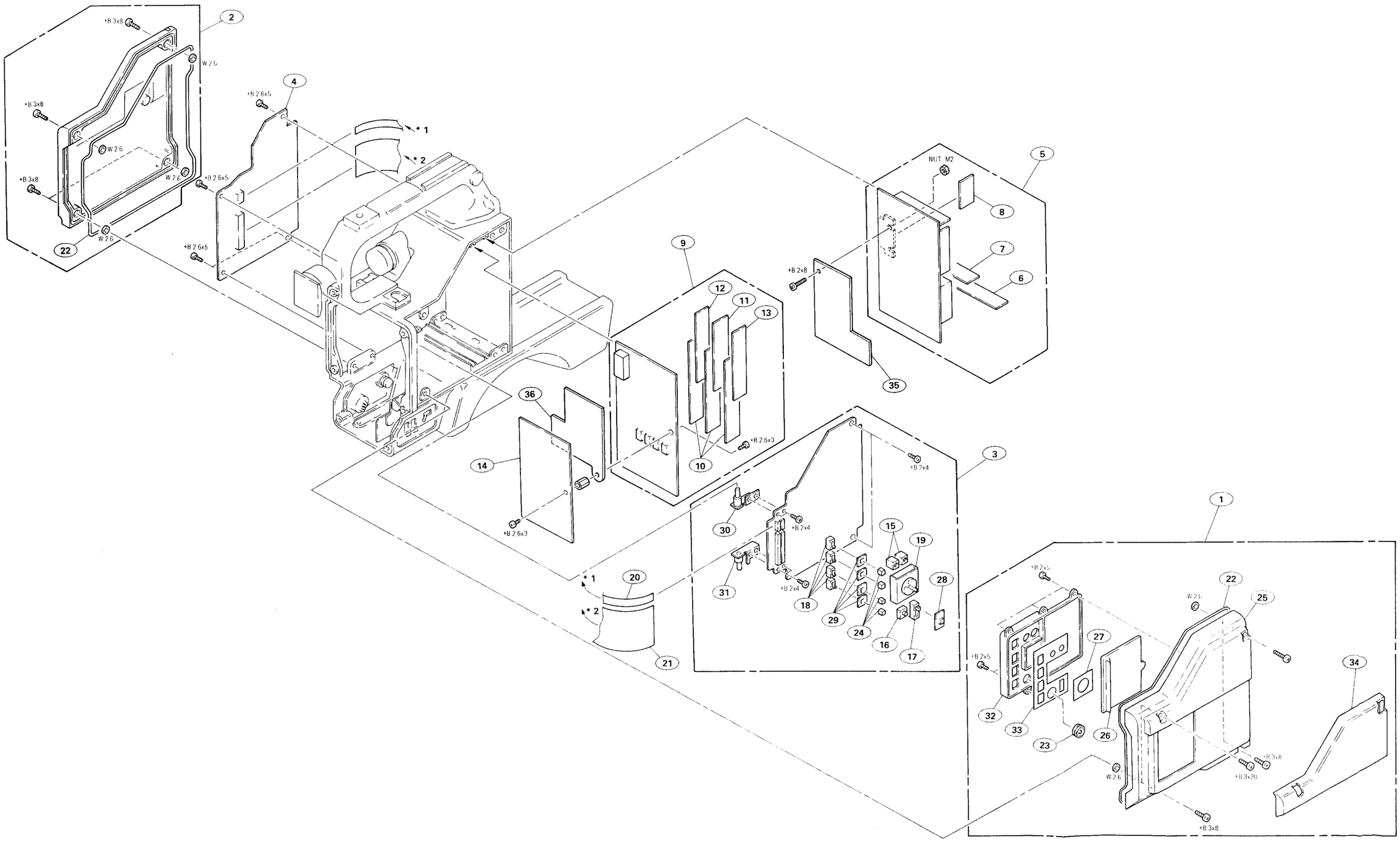
[CHASSIS (1) BLOCK]

No.	Parts No.	SP	Description
1	A-7420-144-A	o	HANDLE ASSY
2	X-3664-212-2	s	SHOE ASSY (B), T
3	1-542-112-11	s	MICROPHONE (C-2025)
4	1-553-972-00	s	SWITCH, TOGGLE "POWER"
5	1-561-320-00	s	SOCKET, DIN 8P "VF"
6	1-561-781-41	s	CONNECTOR, BNC "VIDEO OUT"
7	1-565-653-11	s	CONNECTOR, SMALL TYPE 8P "TITLE"
8	1-570-854-11	s	SWITCH, SLIDE "GAIN" "BARS WB"
9	1-627-915-11	o	PRINTED CIRCUIT BOARD "SW-281"
10	2-277-468-01	s	PLATE, ORNAMENTAL, CAMERA SHOE (B)
11	3-641-622-00	s	SPRING, COMPRESSION
12	3-657-700-00	o	BRACKET ACCESSORY
13	3-664-213-00	o	SCREW, STOPPER
14	3-664-218-00	o	SHOE
15	3-664-228-00	o	PLATE, SPRING
16	3-672-213-00	s	SHEET, ADHESIVE
17	3-675-963-02	s	FOOT, FRONT, RUBBER
18	3-675-964-01	s	FOOT, REAR, RUBBER
19	3-675-965-01	s	SPACER
20	3-676-379-00	s	SCREW, BUSHING (M5)
21	3-680-605-00	o	CAP, SLIDE
22	3-682-718-02	o	SHOE, VF SLIDE
23	3-682-758-01	o	SPACER
24	3-682-759-01	o	RING, LOCK
25	3-682-760-01	o	SCREW (M7-0.75), ADJUSTMENT
26	3-699-110-01	o	BRACKET (A)
27	3-699-111-01	o	BRACKET (B)
28	3-699-113-02	o	PLATE, CONNECTOR
29	1-562-222-41	s	RECEPTACLE, 6P FEMALE
30	3-699-126-01	o	PLATE, BLIND
31	3-699-129-01	o	STOPPER, SW
33	3-699-131-01	o	GUIDE, PC BOARD
34	3-699-132-01	o	LABEL, SW
35	3-699-145-01	o	PLATE, GROUND
36	3-699-176-01	o	STOPPER (2)
37	1-562-151-11	o	PLUG, HOUSING 6P
38	X-2536-714-1	o	WINDSCREEN ASSY
39	3-699-104-02	o	CABINET

[CHASSIS (2) BLOCK]

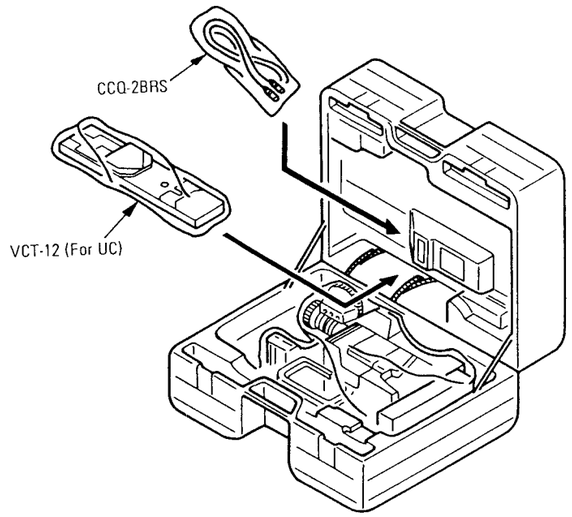
No.	Parts No.	SP	Description
1	A-7420-141-B	o	PLATE (RIGHT) (N) ASSY, SIDE
	A-7420-142-A	o	PLATE (RIGHT) (P) ASSY, SIDE
	Ser No. 40001		to 40150
	A-7420-142-B	o	PLATE (RIGHT) (P) ASSY, SIDE
	Ser No. 40151		and higher
2	A-7420-143-A	o	PLATE (LEFT) ASSY, SIDE
3	A-7513-837-A	o	MOUNTED CIRCUIT BOARD"AT-53"
4	A-7513-838-A	o	MOUNTED CIRCUIT BOARD"MB-190"
5	A-7513-839-A	o	MOUNTED CIRCUIT BOARD (N) "ES-1"
	A-7513-843-A	o	MOUNTED CIRCUIT BOARD (P) "ES-1"
6	A-7513-840-A	o	MOUNTED CIRCUIT BOARD (N) "MX-18"
	A-7513-844-A	o	MOUNTED CIRCUIT BOARD (P) "MX-18"
7	A-7513-841-A	o	MOUNTED CIRCUIT BOARD (N) "CM-22"
	A-7513-845-A	o	MOUNTED CIRCUIT BOARD (P) "CM-22"
8	A-7513-842-A	o	MOUNTED CIRCUIT BOARD"BKG-4" (NTSC ONLY)
9	A-7513-846-A	o	MOUNTED CIRCUIT BOARD (N) "PR-111"
	A-7513-847-A	o	MOUNTED CIRCUIT BOARD (P) "PR-111"
10	A-7513-848-A	o	MOUNTED CIRCUIT BOARD"PR-109"
11	A-7513-849-A	o	MOUNTED CIRCUIT BOARD"VA-70R"
12	A-7513-850-A	o	MOUNTED CIRCUIT BOARD"VA-70G"
13	A-7513-851-A	o	MOUNTED CIRCUIT BOARD"VA-70B"
14	A-7513-853-A	o	MOUNTED CIRCUIT BOARD (N) "IE-23"
	A-7513-854-A	o	MOUNTED CIRCUIT BOARD (P) "IE-23"
15	1-237-605-11	s	RES, VER, METAL 10K "PHASE H" "PHASE SC"
16	1-554-303-11	s	SWITCH,PUSH "REC REVIEW"
17	1-554-364-00	s	SWITCH, SLIDE "DISP CHG"
18	1-570-865-11	s	SWITCH, SLIDE "SC" "SHUTTER" "ABC" "ZEBRA"
19	1-571-678-11	s	SWITCH, ROTARY "SHUTTER SPEED"
20	1-574-144-11	o	WIRE, FLAT TYPE (10 CORE)
21	1-574-145-11	o	WIRE, FLAT TYPE (30 CORE)
22	3-672-253-11	o	RUBBER, CONDUCTIVE
23	3-676-244-00	s	COVER, SWITCH
24	3-680-605-00	o	CAP, SLIDE
25	3-699-107-01	o	PLATE (RIGHT), SIDE
26	3-699-121-01	o	PLATE, SLIDE
	Ser No. 40001		to 40150(EK)
	3-699-121-02	o	PLATE, SLIDE
	Ser No. 10001		and higher(UC)
	40151		and higher(EK)
27	3-699-122-01	o	LABEL (B), SW (N)
	3-699-122-11	o	LABEL (B), SW (P)
28	3-699-125-01	s	KNOB, DISPCHG
29	3-699-126-01	o	PLATE, BLIND
30	3-699-127-01	o	BRACKET (A), AT
	Ser No. 10001		to 10570(UC)
	40001		to 40920(EK)
	3-699-170-01	o	BRACKET (UPPER), AT
	Sre No. 10571		and higher(UC)
	30361		and higher(J)
	40921		and higher(EK)
31	3-699-128-01	o	BRACKET (B), AT
	Ser No. 10001		to 10570(UC)
	40001		to 40920(EK)
	3-699-171-01	o	BRACKET (LOWER), AT
	Sre No. 10571		and higher(UC)
	40921		and higher(EK)
32	3-699-135-01	o	PLATE, SW
33	3-699-136-01	o	LABEL (A), SW
34	3-699-137-01	s	PAD (C), SIDE
35	3-699-178-01	o	PLATE, SHIELD ES
	Ser NO. 42081		and higher(EK)
36	3-699-179-01	o	PLATE, SHIELD IE
	Ser No. 11271		and higher(UC)
	30811		and higher(J)
	42081		and higher(EK)

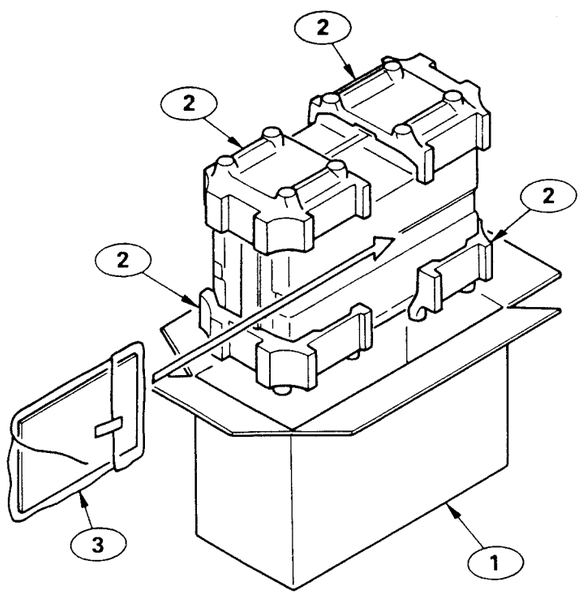
CHASSIS(2) BLOCK



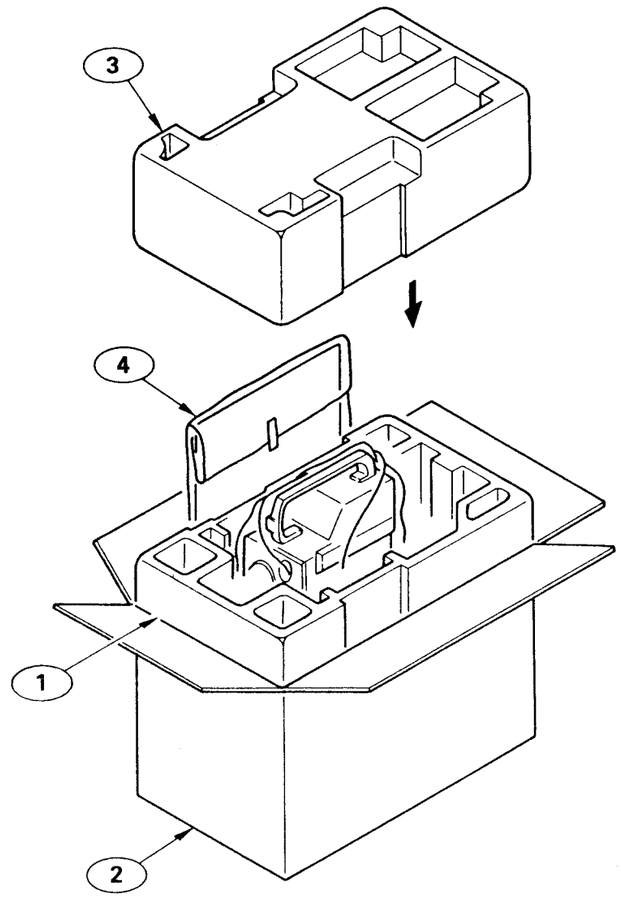
D-4. PACKING MATERIAL AND ACCESSORIES

No.	Parts No.	SP	Description
1	3-699-158-01	o	CARTON, INDIVIDUAL DXC-325K(J,UC)
	3-699-159-01	o	CARTON, INDIVIDUAL DXC-325PK(EK)
	3-699-160-01	o	CARTON, INDIVIDUAL DXC-325L(J,UC)
	3-699-161-01	o	CARTON, INDIVIDUAL DXC-325PL(EK)
2	3-699-162-01	o	CUSHION
3	3-701-630-01	o	BAG, POLY
	3-786-608-11	s	MANUAL, INSTRUCTION





No.	Parts No.	SP	Description
1	3-699-154-01	o	CUSHION (REAR)
2	3-699-155-01	o	CARTON, INDIVIDUAL DXC-325PH(EK)
	3-699-156-01	o	CARTON, INDIVIDUAL DXC-325H(J,UC)
3	3-699-157-01	o	CUTION (FRONT)
4	3-701-630-01	o	BAG, POLY
	3-786-608-01	s	MANUAL, INSTRUCTION(J,UC)
	3-786-608-31	s	MANUAL, INSTRUCTION(UC)
	3-786-608-41	s	MANUAL, INSTRUCTION(EK)
	3-786-608-51	s	MANUAL, INSTRUCTION(EK)



D-5. ELECTRICAL PARTS

Part No.	SP	Description
CAPACITOR, CHIP TANTALUM		
0.1uF - 47uF +-10%/+-20% 6.3V/10V/16V/20V/25V/35V		
1-135-070-00	s	CAP, CHIP TANTALUM 0.1 10% 35V
1-135-071-21	s	CAP, CHIP TANTALUM 0.15 10% 35V
1-135-072-21	s	CAP, CHIP TANTALUM 0.22 10% 35V
1-135-073-00	s	CAP, CHIP TANTALUM 0.33 10% 35V
1-135-083-00	s	CAP, CHIP TANTALUM 0.47 10% 25V
1-135-074-21	s	CAP, CHIP TANTALUM 0.47 10% 35V
1-135-087-21	s	CAP, CHIP TANTALUM 0.68 10% 20V
1-135-075-21	s	CAP, CHIP TANTALUM 0.68 10% 35V
1-135-091-21	s	CAP, CHIP TANTALUM 1.0 10% 16V
1-135-076-21	s	CAP, CHIP TANTALUM 1.0 10% 35V
1-135-084-21	s	CAP, CHIP TANTALUM 1.5 10% 25V
1-135-077-21	s	CAP, CHIP TANTALUM 1.5 10% 35V
1-135-088-21	s	CAP, CHIP TANTALUM 2.2 10% 20V
1-135-078-21	s	CAP, CHIP TANTALUM 2.2 10% 35V
1-135-092-21	s	CAP, CHIP TANTALUM 3.3 10% 16V
1-135-079-21	s	CAP, CHIP TANTALUM 3.3 10% 35V
1-135-096-21	s	CAP, CHIP TANTALUM 4.7 10% 10V
1-135-085-21	s	CAP, CHIP TANTALUM 4.7 10% 25V
1-135-100-21	s	CAP, CHIP TANTALUM 6.8 10% 6.3V
1-135-089-21	s	CAP, CHIP TANTALUM 6.8 10% 20V
1-135-093-21	s	CAP, CHIP TANTALUM 10 10% 16V
1-135-097-21	s	CAP, CHIP TANTALUM 15 10% 10V
1-135-101-21	s	CAP, CHIP TANTALUM 22 10% 6.3V
1-135-098-21	s	CAP, CHIP TANTALUM 47 10% 6.3V

Part No.	SP	Description
CAPACITOR, CHIP CERAMIC		
1pF - 4pF CH +-0.25pF 50V		
6pF - 8pF CH +-0.5pF 50V		
10pF - 1000pF CH +-5% 50V		
1500pF - 6800pF B +-10% 50V		
0.01uF - 0.015uF B +-10% 50V		
0.033uF - 0.047uF F +80/-20% 50V		
0.068uF - 0.1uF F +80/-20% 25V		
1-163-083-00	s	CAP, CHIP CERAMIC 1pF +-0.25pF 5
1-163-085-00	s	CAP, CHIP CERAMIC 2pF +-0.25pF 5
1-163-087-00	s	CAP, CHIP CERAMIC 4pF +-0.25pF 5
1-163-089-00	s	CAP, CHIP CERAMIC 6pF +-0.5pF 50
1-163-091-00	s	CAP, CHIP CERAMIC 8pF +-0.5pF 50
1-163-093-00	s	CAP, CHIP CERAMIC 10pF 5% 50V
1-163-097-00	s	CAP, CHIP CERAMIC 15pF 5% 50V
1-163-101-00	s	CAP, CHIP CERAMIC 22pF 5% 50V
1-163-105-00	s	CAP, CHIP CERAMIC 33pF 5% 50V
1-163-109-00	s	CAP, CHIP CERAMIC 47pF 5% 50V
1-163-113-00	s	CAP, CHIP CERAMIC 68pF 5% 50V
1-163-117-00	s	CAP, CHIP CERAMIC 100pF 5% 50V
1-163-121-00	s	CAP, CHIP CERAMIC 150pF 5% 50V
1-163-125-00	s	CAP, CHIP CERAMIC 220pF 5% 50V
1-163-129-00	s	CAP, CHIP CERAMIC 330pF 5% 50V
1-163-133-00	s	CAP, CHIP CERAMIC 470pF 5% 50V
1-163-137-00	s	CAP, CHIP CERAMIC 680pF 5% 50V
1-163-141-00	s	CAP, CHIP CERAMIC 1000pF 5% 50V
1-163-145-00	s	CAP, CHIP CERAMIC 1500pF 10% 50V
1-163-013-00	s	CAP, CHIP CERAMIC 2200pF 10% 50V
1-163-015-00	s	CAP, CHIP CERAMIC 3300pF 10% 50V
1-163-017-00	s	CAP, CHIP CERAMIC 4700pF 10% 50V
1-163-019-00	s	CAP, CHIP CERAMIC 6800pF 10% 50V
1-163-021-00	s	CAP, CHIP CERAMIC 0.01 10% 50V
1-163-023-00	s	CAP, CHIP CERAMIC 0.015 10% 50V
1-163-034-00	s	CAP, CHIP CERAMIC 0.033 50V
1-163-035-00	s	CAP, CHIP CERAMIC 0.047 50V
1-163-036-00	s	CAP, CHIP CERAMIC 0.068 50V
1-163-038-00	s	CAP, CHIP CERAMIC 0.1 50V

Part No.	SP	Description

RESISTOR, CHIP

1/10W
0 - 3.3M (E12) +-5% 1/10W

1-216-295-00	s	RES, CHIP	0	5%	1/10W
1-216-298-00	s	RES, CHIP	2.2	5%	1/10W
1-216-302-00	s	RES, CHIP	2.7	5%	1/10W
1-216-304-00	s	RES, CHIP	3.3	5%	1/10W
1-216-306-00	s	RES, CHIP	3.9	5%	1/10W
1-216-308-00	s	RES, CHIP	4.7	5%	1/10W
1-216-309-00	s	RES, CHIP	5.6	5%	1/10W
1-216-311-00	s	RES, CHIP	6.8	5%	1/10W
1-216-313-00	s	RES, CHIP	8.2	5%	1/10W
1-216-001-00	s	RES, CHIP	10	5%	1/10W
1-216-003-00	s	RES, CHIP	12	5%	1/10W
1-216-005-00	s	RES, CHIP	15	5%	1/10W
1-216-007-00	s	RES, CHIP	18	5%	1/10W
1-216-009-00	s	RES, CHIP	22	5%	1/10W
1-216-011-00	s	RES, CHIP	27	5%	1/10W
1-216-013-00	s	RES, CHIP	33	5%	1/10W
1-216-015-00	s	RES, CHIP	39	5%	1/10W
1-216-017-00	s	RES, CHIP	47	5%	1/10W
1-216-019-00	s	RES, CHIP	56	5%	1/10W
1-216-021-00	s	RES, CHIP	68	5%	1/10W
1-216-023-00	s	RES, CHIP	82	5%	1/10W
1-216-025-00	s	RES, CHIP	100	5%	1/10W
1-216-027-00	s	RES, CHIP	120	5%	1/10W
1-216-029-00	s	RES, CHIP	150	5%	1/10W
1-216-031-00	s	RES, CHIP	180	5%	1/10W
1-216-033-00	s	RES, CHIP	220	5%	1/10W
1-216-035-00	s	RES, CHIP	270	5%	1/10W
1-216-037-00	s	RES, CHIP	330	5%	1/10W
1-216-039-00	s	RES, CHIP	390	5%	1/10W
1-216-041-00	s	RES, CHIP	470	5%	1/10W
1-216-043-00	s	RES, CHIP	560	5%	1/10W
1-216-045-00	s	RES, CHIP	680	5%	1/10W
1-216-047-00	s	RES, CHIP	820	5%	1/10W
1-216-049-00	s	RES, CHIP	1k	5%	1/10W
1-216-051-00	s	RES, CHIP	1.2k	5%	1/10W
1-216-053-00	s	RES, CHIP	1.5k	5%	1/10W
1-216-055-00	s	RES, CHIP	1.8k	5%	1/10W
1-216-057-00	s	RES, CHIP	2.2k	5%	1/10W
1-216-059-00	s	RES, CHIP	2.7k	5%	1/10W
1-216-061-00	s	RES, CHIP	3.3k	5%	1/10W
1-216-063-00	s	RES, CHIP	3.9k	5%	1/10W
1-216-065-00	s	RES, CHIP	4.7k	5%	1/10W
1-216-067-00	s	RES, CHIP	5.6k	5%	1/10W
1-216-069-00	s	RES, CHIP	6.8k	5%	1/10W
1-216-071-00	s	RES, CHIP	8.2k	5%	1/10W
1-216-073-00	s	RES, CHIP	10k	5%	1/10W
1-216-075-00	s	RES, CHIP	12k	5%	1/10W
1-216-077-00	s	RES, CHIP	15k	5%	1/10W
1-216-079-00	s	RES, CHIP	18k	5%	1/10W
1-216-081-00	s	RES, CHIP	22k	5%	1/10W

Part No.	SP	Description

1-216-083-00	s	RES, CHIP	27k	5%	1/10W
1-216-085-00	s	RES, CHIP	33k	5%	1/10W
1-216-087-00	s	RES, CHIP	39k	5%	1/10W
1-216-089-00	s	RES, CHIP	47k	5%	1/10W
1-216-091-00	s	RES, CHIP	56k	5%	1/10W
1-216-093-00	s	RES, CHIP	68k	5%	1/10W
1-216-095-00	s	RES, CHIP	82k	5%	1/10W
1-216-097-00	s	RES, CHIP	100k	5%	1/10W
1-216-099-00	s	RES, CHIP	120k	5%	1/10W
1-216-101-00	s	RES, CHIP	150k	5%	1/10W
1-216-103-00	s	RES, CHIP	180k	5%	1/10W
1-216-105-00	s	RES, CHIP	220k	5%	1/10W
1-216-107-00	s	RES, CHIP	270k	5%	1/10W
1-216-109-00	s	RES, CHIP	330k	5%	1/10W
1-216-111-00	s	RES, CHIP	390k	5%	1/10W
1-216-113-00	s	RES, CHIP	470k	5%	1/10W
1-216-115-00	s	RES, CHIP	560k	5%	1/10W
1-216-117-00	s	RES, CHIP	680k	5%	1/10W
1-216-119-00	s	RES, CHIP	820k	5%	1/10W
1-216-121-00	s	RES, CHIP	1.0M	5%	1/10W
1-216-123-00	s	RES, CHIP	1.2M	5%	1/10W
1-216-125-00	s	RES, CHIP	1.5M	5%	1/10W
1-216-127-00	s	RES, CHIP	1.8M	5%	1/10W
1-216-129-00	s	RES, CHIP	2.2M	5%	1/10W
1-216-131-00	s	RES, CHIP	2.7M	5%	1/10W
1-216-133-00	s	RES, CHIP	3.3M	5%	1/10W

AT-53 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-837-A	o	MOUNTED CIRCUIT BOARD "AT-53"
C1	1-124-638-11	s	ELECT 22uF 20% 10V
C8	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C10	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C11	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C13	1-124-234-00	s	ELECT 22uF 20% 16V
C14	1-126-153-11	s	ELECT 22uF 20% 6.3V
C15	1-131-365-00	s	TANTALUM 10uF 10% 20V
C16	1-135-125-21	s	TANTALUM, CHIP 33uF 20% 10V
C17	1-131-365-00	s	TANTALUM 10uF 10% 20V
C18	1-123-661-00	s	ELECT 100uF 20% 6.3V
C20	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C21	1-124-638-11	s	ELECT 22uF 20% 10V
C22	1-131-365-00	s	TANTALUM 10uF 10% 20V
C24	1-124-638-11	s	ELECT 22uF 20% 10V
C25	1-124-638-11	s	ELECT 22uF 20% 10V
C26	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C27	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C28	1-131-375-00	s	TANTALUM 4.7uF 10% 10V
C29	1-131-375-00	s	TANTALUM 4.7uF 10% 10V
C32	1-124-255-00	s	ELECT 1uF 20% 50V
C33	1-124-589-11	s	ELECT 47uF 20% 16V
C34	1-124-638-11	s	ELECT 22uF 20% 10V
C35	1-123-611-00	s	ELECT 1uF 20% 50V
C36	1-123-611-00	s	ELECT 1uF 20% 50V
C37	1-130-489-00	s	MYLAR 0.033uF 5% 50V
C38	1-164-161-11	s	CERAMIC, CHIP 0.0022MF 10% 50V
C39	1-123-611-00	s	ELECT 1uF 20% 50V
C41	1-124-638-11	s	ELECT 22uF 20% 10V
C42	1-131-365-00	s	TANTALUM 10uF 10% 20V
C43	1-126-157-11	s	ELECT 10uF 20% 16V
C44	1-124-638-11	s	ELECT 22uF 20% 10V
C45	1-124-638-11	s	ELECT 22uF 20% 10V
C53	1-126-153-11	s	ELECT 22uF 20% 6.3V
C54	1-126-153-11	s	ELECT 22uF 20% 6.3V
C60	1-131-379-00	s	TANTALUM 22uF 10% 10V
C65	1-126-157-11	s	ELECT 10 20% 16V
C66	1-125-443-11	s	DOUBLE LAYERS 0.047F 5.5V
C67	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
CN1	1-566-512-11	s	CONNECTOR, FPC (ZIF) 12P
CN2	1-565-210-11	s	CONNECTOR, FPC (ZIF) 30P
CN3	1-506-485-11	o	CONNECTOR, 6P, MALE
CN4	1-506-468-11	o	CONNECTOR, 3P, MALE

Ref. No.	Part No.	SP	Description
D1	8-719-100-03	s	1S2835
D2	8-719-100-03	s	1S2835
D3	8-719-100-03	s	1S2835
D4	8-719-100-03	s	1S2835
D5	8-719-100-05	s	1S2837
D6	8-719-101-23	s	1SS123
D7	8-719-100-05	s	1S2837
D8	8-719-100-05	s	1S2837
D9	8-719-100-05	s	1S2837
D10	8-719-100-05	s	1S2837
D11	8-719-100-05	s	1S2837
D12	8-719-100-03	s	1S2835
D13	8-719-105-93	s	RD5.6M-B1
D14	8-719-100-03	s	1S2835
D16	8-719-100-05	s	1S2837
D18	8-719-101-23	s	1SS123
D19	8-719-100-03	s	1S2835
D20	8-719-100-05	s	1S2837
D21	8-719-100-05	s	1S2837
D22	8-719-100-03	s	1S2835
D23	8-719-100-05	s	1S2837
D24	8-719-100-03	s	1S2835
D25	8-719-100-05	s	1S2837
D26	8-719-100-03	s	1S2835
D27	8-719-100-05	s	1S2837
IC1	8-759-103-25	s	UPD4053BG: NEC
IC2	8-759-101-12	s	UPC311G2: NEC
IC3	8-759-700-07	s	NJM2903M: JRC
IC4	8-759-906-54	s	TL064CNS: TOSHIBA
IC5	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC6	8-759-908-17	s	TL082CPS: TI
IC7	8-759-906-54	s	TL064CNS: TI
IC8	8-759-200-82	s	TC4069UBF: TOSHIBA
IC9	8-759-303-31	s	HD44860B42: HITACHI
IC10	8-759-208-07	s	TC4051BFHB: TOSHIBA
IC11	8-759-208-07	s	TC4051BFHB: TOSHIBA
IC12	8-759-906-54	s	TL064CNS: TI
IC13	8-759-906-54	s	TL064CNS: TI
IC14	8-759-906-54	s	TL064CNS: TI
IC15	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC16	8-759-400-89	s	MN1237AD: MATSUSHITA
IC17	8-759-200-67	s	TC4001BF: TOSHIBA
IC18	8-759-200-82	s	TC4069UBF: TOSHIBA
IC19	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC20	8-759-209-90	s	TC4S71F: TOSHIBA
IC21	8-759-209-15	s	TC4SU69F: TOSHIBA
	Ser.No. 42081 and higher		

Ref. No.	Part No.	SP	Description
L1	1-408-789-21	s	CHIP 100μH
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-402-19	s	XN6501
Q6	8-729-402-19	s	XN6501
Q9	8-729-100-66	s	2SC1623-L6
Q10	8-729-402-16	s	XN4608
Q11	8-729-402-16	s	XN4608
Q12	8-729-109-41	s	2SK94-X1
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-66	s	2SC1623-L6
Q15	8-729-100-66	s	2SC1623-L6
Q16	8-729-102-65	s	2SC2757-T32
Q17	8-729-102-65	s	2SC2757-T32
Q18	8-729-100-75	s	2SA812-M5
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q27	8-729-100-66	s	2SC1623-L6
Q28	8-729-100-75	s	2SA812-M5
Q29	8-729-100-75	s	2SA812-M5
Q30	8-729-100-75	s	2SA812-M5
Q31	8-729-100-66	s	2SC1623-L6
Q32	8-729-100-66	s	2SC1623-L6
Q33	8-729-100-66	s	2SC1623-L6
Q34	8-729-100-66	s	2SC1623-L6
Q35	8-729-100-66	s	2SC1623-L6
Q36	8-729-100-66	s	2SC1623-L6
R161	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
RB1	1-231-387-00	s	RESISTOR BLOCK
RV1	1-237-603-11	s	METAL 2.2K
RV2	1-237-606-11	s	METAL 22K
RV3	1-237-603-11	s	METAL 2.2K
RV4	1-237-609-11	s	METAL 220K
RV5	1-237-518-21	s	METAL 10K
RV6	1-237-518-21	s	METAL 10K
S1	1-553-510-00	s	SWITCH, SLIDE
S2	1-570-865-11	s	SWITCH, SLIDE
S3	1-570-865-11	s	SWITCH, SLIDE
S4	1-570-865-11	s	SWITCH, SLIDE
S5	1-570-865-11	s	SWITCH, SLIDE
S6	1-554-303-21	s	SWITCH, KEY BOARD
S7	1-554-364-00	s	SWITCH, SLIDE
S8	1-571-678-11	s	SWITCH, ROTARY
S9	1-553-510-00	s	SWITCH, SLIDE
X1	1-527-532-00	s	OSCILLATOR, CERAMIC

Ref. No.	Part No.	SP	Description
BC-15 BOARD			
	A-7513-834-A	o	MOUNTED CIRCUIT BOARD "BC-15"
C1	1-124-120-11	s	ELECT 220uF 20% 25V
C2	1-126-176-11	s	ELECT 220uF 20% 10V
CN1	1-566-257-11	o	CONNECTOR, BOARD TO BOARD 11P
CN2	1-566-257-11	o	CONNECTOR, BOARD TO BOARD 11P
CN5	1-562-156-11	o	HOUSING, CONNECTOR 11P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN6	1-562-152-11	o	HOUSING, CONNECTOR 7P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN7	1-562-738-11	o	HOUSING, CONNECTOR 5P
CN8	1-562-735-11	o	HOUSING, CONNECTOR 2P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN21	1-562-148-11	o	HOUSING 3P
CN-242 BOARD			
	A-7513-836-A	o	MOUNTED CIRCUIT BOARD "CN-242"
C4	1-135-125-21	s	TANTALUM, CHIP 33uF 20% 10V
C15	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
CN1	1-563-688-21	o	CONNECTOR, BOARD TO BOARD 15P
CN2	1-563-686-21	o	CONNECTOR, BOARD TO BOARD 13P
CN3	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN4	1-565-150-11	o	PIN, CONNECTOR (ANGLE) 3P
CN5	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN6	1-565-151-11	o	PIN, CONNECTOR (ANGLE) 4P
CN7	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN8	1-565-150-11	o	PIN, CONNECTOR (ANGLE) 3P
D1	8-719-100-05	s	1S2837
D2	8-719-100-05	s	1S2837
D3	8-719-100-05	s	1S2837
IC1	8-759-204-96	s	TC74HC04F: TOSHIBA
IC2	8-759-204-96	s	TC74HC04F: TOSHIBA

Ref. No.	Part No.	SP	Description
DR-68 BOARD			
	A-7513-835-A	o	MOUNTED CIRCUIT BOARD "DR-68" Ser.No 10001 ~ 11720 (UC) 30001 ~ 30840 (J) 40001 ~ 42530 (EK)
	A-7513-997-A	o	MOUNTED CIRCUIT BOARD "DR-68" Ser.No 11721 ~ (UC) 30841 ~ (J) 42531 ~ (EK)
C1	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C5	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C7	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C8	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C9	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C10	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C11	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C13	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C14	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C22	1-163-119-00	s	CERAMIC, CHIP 120PF 5% 50V
C23	1-135-138-11	s	TANTAL, CHIP 10MF 20% 20V
C24	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C29	1-135-159-21	s	TANTAL, CHIP 10MF 20% 10V
C35	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C36	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C37	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C38	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C39	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C40	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C41	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C42	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
CN1	1-566-257-11	o	CONNECTOR, BOARD TO BOARD 11P
CN2	1-566-277-21	o	CONNECTOR, BOARD TO BOARD 15P
CN3	1-566-275-21	o	CONNECTOR, BOARD TO BOARD 13P
CN4	1-566-258-11	o	CONNECTOR, BOARD TO BOARD 12P
D1	8-719-101-23	s	1SS123
D2	8-719-420-24	s	MA123
D3	8-719-420-23	s	MA122
D4	8-719-420-24	s	MA123
D5	8-719-420-23	s	MA122
D6	8-719-100-03	s	1S2835
D7	8-719-100-03	s	1S2835
D8	8-719-100-03	s	1S2835
D9	8-719-100-03	s	1S2835
D11	8-719-100-03	s	1S2835
D12	8-719-100-03	s	1S2835

Ref. No.	Part No.	SP	Description
IC1	8-759-205-00	s	TC74HC14F: TOSHIBA
IC2	8-759-204-98	s	TC74HC08F: TOSHIBA
IC3	8-759-100-95	s	UPC324G2: NEC
IC4	8-752-031-03	s	CXA1065M: SONY
IC5	8-752-031-03	s	CXA1065M: SONY
L1	1-408-783-00	s	CHIP 33μH
L2	1-408-797-11	s	CHIP 470μH
L3	1-408-783-00	s	CHIP 33μH
Q1	8-729-104-06	s	2SD999-CK
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-216-22	s	2SA812-M5
Q4	8-729-216-22	s	2SA812-M5
Q5	8-729-100-66	s	2SC1623-L6
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-66	s	2SC1623-L6
Q9	8-729-100-66	s	2SC1623-L6
Q10	8-729-100-66	s	2SC1623-L6
Q11	8-729-216-22	s	2SA812-M5
Q12	8-729-112-65	s	2SA1462
Q13	8-729-110-67	s	NTM2369
Q14	8-729-100-66	s	2SC1623-L6
R1	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R2	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R36	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R37	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
RV1	1-230-873-11	s	METAL 47K
RV2	1-230-873-11	s	METAL 47K
RV3	1-230-873-11	s	METAL 47K
RV4	1-230-867-11	s	METAL 1K

Ref. No.	Part No.	SP	Description
ES-1 BOARD			
	A-7513-843-A	o	MOUNTED CIRCUIT BOARD "ES-1"(CM-22, MX-18)
C1	1-124-589-11	s	ELECT 47uF 20% 16V
C2	1-126-154-11	s	ELECT 47uF 20% 6.3V
C3	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C4	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C5	1-163-086-00	s	CERAMIC, CHIP 3PF 50V
C6	1-126-157-11	s	ELECT 10uF 20% 16V
C7	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C8	1-123-661-00	s	ELECT 100uF 20% 6.3V
C9	1-124-584-00	s	ELECT 100uF 20% 10V
C10	1-126-157-11	s	ELECT 10uF 20% 16V
C11	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C12	1-124-638-11	s	ELECT 22uF 20% 10V
C13	1-124-638-11	s	ELECT 22uF 20% 10V
C14	1-124-589-11	s	ELECT 47uF 20% 16V
C16	1-124-589-11	s	ELECT 47uF 20% 16V
C18	1-126-157-11	s	ELECT 10uF 20% 16V
C19	1-163-090-00	s	CERAMIC, CHIP 7PF 50V
C20	1-124-638-11	s	ELECT 22uF 20% 10V
C21	1-126-157-11	s	ELECT 10uF 20% 16V
C22	1-126-157-11	s	ELECT 10uF 20% 16V
C23	1-123-661-00	s	ELECT 100uF 20% 6.3V
C24	1-124-589-11	s	ELECT 47uF 20% 16V
C26	1-124-638-11	s	ELECT 22uF 20% 10V
C28	1-124-234-00	s	ELECT 22uF 20% 16V
C30	1-126-176-11	s	ELECT 220uF 20% 10V
C34	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C36	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C37	1-123-661-00	s	ELECT 100uF 20% 6.3V
C38	1-163-099-00	s	CERAMIC, CHIP 18PF 5% 50V
C39	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C42	1-131-381-00	s	TANTALUM 47uF 10% 10V
C44	1-126-176-11	s	ELECT 220uF 20% 10V
C46	1-126-157-11	s	ELECT 10uF 20% 16V
C56	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C60	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C61	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C63	1-163-245-00	s	CERAMIC, CHIP 56PF 5% 50V
C64	1-163-241-11	s	CERAMIC, CHIP 39PF 5% 50V
C70	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C203	1-126-157-11	s	ELECT 10uF 20% 16V
CN1	1-565-780-11	o	CONNECTOR,TX(P.L) (PC BOARD)50P
CP1	1-577-183-11	s	OSCILLATOR, CRYSTAL

Ref. No.	Part No.	SP	Description
D1	8-719-100-03	s	1S2835
D2	8-719-100-03	s	1S2835 Ser.No. 42081 and higher
DL1	1-415-306-00	s	340nS
FL1	1-235-181-00	s	BAND PASS 4.43MHz
IC1	8-759-933-79	s	UA711CNS: FSC
IC2	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC3	8-759-204-57	s	TC40H076AF: TOSHIBA
IC4	8-759-200-82	s	TC4069UBF: TOSHIBA
IC5	1-807-836-11	s	IC,SEP: SONY
IC6	1-808-513-12	s	IB-38: SONY Ser.No 41521 ~
IC7	8-759-907-81	s	SN74LS221NS: TI
IC8	8-741-134-00	s	BX1340: SONY
IC9	1-808-514-11	s	IB-37: SONY
IC10	8-757-930-11	s	CX7930A: SONY
L1	1-408-781-00	s	CHIP 22μH
L2	1-408-777-00	s	CHIP 10μH
L3	1-408-781-00	s	CHIP 22μH
L4	1-408-781-00	s	CHIP 22μH
L6	1-408-781-00	s	CHIP 22μH
L7	1-408-781-00	s	CHIP 22μH
L8	1-408-781-00	s	CHIP 22μH
L9	1-408-785-21	s	CHIP 47μH
L10	1-408-781-00	s	CHIP 22μH
L11	1-408-785-21	s	CHIP 47μH
L12	1-408-785-21	s	CHIP 47μH
L13	1-408-783-00	s	CHIP 33μH
L14	1-408-785-21	s	CHIP 47μH
L15	1-408-785-21	s	CHIP 47μH
L16	1-408-785-21	s	CHIP 47μH
L17	1-408-785-21	s	CHIP 47μH
L18	1-408-783-21	s	CHIP 33μH
L19	1-408-785-21	s	CHIP 47μH
L20	1-408-785-21	s	CHIP 47μH
L101	1-408-777-00	s	CHIP 10μH
L201	1-408-785-21	s	CHIP 47μH
LV1	1-408-844-00	s	22μH

Ref. No.	Part No.	SP	Description
Q1	8-729-402-16	s	XN4608
Q2	8-729-402-19	s	XN6501
Q3	8-729-100-75	s	2SA812-M5
Q4	8-729-402-19	s	XN6501
Q5	8-729-402-78	s	XN6401
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-102-65	s	2SC2757-T32
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-402-19	s	XN6501
Q10	8-729-100-66	s	2SC1623-L6
Q11	8-729-100-66	s	2SC1623-L6
Q12	8-729-402-19	s	XN6501
Q13	8-729-402-19	s	XN6501
Q14	8-729-100-75	s	2SA812-M5
Q15	8-729-100-66	s	2SC1623-L6
Q20	8-729-109-41	s	2SK94-X1
R1	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R2	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R4	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R6	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R7	1-216-668-11	s	METAL, CHIP 5.1K 0.5% 1/10W
R8	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R9	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R10	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R11	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R12	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R13	1-218-259-11	s	METAL CHIP 13.7K 0.50% 1/10W
R14	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R15	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R17	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R21	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R22	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R26	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R27	1-218-257-11	s	METAL CHIP 4.99K 0.50% 1/10W
R30	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R31	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R33	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R37	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R44	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R45	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W

Ref. No.	Part No.	SP	Description
R47	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R74	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R78	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R79	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R85	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R87	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R108	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R112	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R113	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R201	1-249-417-11	s	CARBON 1K 5% 1/4W (EK) Ser No. 40001 to 41520
R202	1-249-429-11	s	CARBON 10K 5% 1/4W (EK) Ser No. 40001 to 41520
RV1	1-230-523-11	s	METAL 10K
RV2	1-230-519-11	s	METAL 470
RV3	1-238-221-11	s	METAL 2.2K
RV4	1-238-219-11	s	METAL 470
RV6	1-230-522-11	s	METAL 4.7K
RV7	1-230-521-11	s	METAL 2.2K

CM-22 BOARD

	A-7513-845-A	o	MOUNTED CIRCUIT BOARD "CM-22"
C2	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C5	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C7	1-163-114-00	s	CERAMIC, CHIP 75PF 5% 50V
C9	1-163-114-00	s	CERAMIC, CHIP 75PF 5% 50V
CN1	1-564-549-11	o	PIN, BOARD TO BOARD 10P
IC1	8-759-906-59	s	CX22017: SONY
Q1	8-729-100-66	s	2SC1623-L6
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
R2	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R3	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R4	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R8	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R9	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R10	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R11	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W

MX-18 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-844-A	o	MOUNTED CIRCUIT BOARD "MX-18"
C1	1-163-090-00	s	CERAMIC, CHIP 7PF 50V
C3	1-163-099-00	s	CERAMIC, CHIP 18PF 5% 50V
C11	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
CN1	1-566-093-11	o	PIN, BOARD TO BOARD 8P
CN2	1-506-592-11	o	CONNECOTR, 4P
L1	1-408-795-21	s	CHIP 330μH
L2	1-408-795-21	s	CHIP 330μH
Q1	8-729-403-31	s	XN6435
Q2	8-729-402-16	s	XN4608
Q3	8-729-402-19	s	XN6501
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-402-78	s	XN6401
Q6	8-729-402-19	s	XN6501
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-402-78	s	XN6401
R1	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R2	1-218-257-11	s	METAL CHIP 4.99K 0.50% 1/10W
R3	1-218-259-11	s	METAL CHIP 13.7K 0.50% 1/10W
R6	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R7	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R8	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R12	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R13	1-218-259-11	s	METAL CHIP 13.7K 0.50% 1/10W
R14	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R15	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R17	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R21	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R26	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R27	1-218-257-11	s	METAL CHIP 4.99K 0.50% 1/10W
R30	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R31	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R33	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R37	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
RV1	1-238-220-11	s	METAL 1K
RV2	1-228-394-00	s	METAL 4.7K
RV3	1-238-221-11	s	METAL 2.2K
RV4	1-238-219-11	s	METAL 470

IE-23 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-854-A	o	MOUNTED CIRCUIT BOARD "IE-23"
C2	1-131-361-00	s	TANTALUM 2.2MF 10% 20V
C3	1-126-154-11	s	ELECT 47uF 20% 6.3V
C7	1-163-098-00	s	CERAMIC, CHIP 16PF 5% 50V
C9	1-124-589-11	s	ELECT 47uF 20% 16V
C16	1-124-589-11	s	ELECT 47uF 20% 16V
C18	1-123-661-00	s	ELECT 100uF 20% 6.3V
C19	1-126-096-11	s	ELECT 10uF 20% 25V
C21	1-163-102-00	s	CERAMIC, CHIP 24PF 5% 50V
C24	1-126-154-11	s	ELECT 47uF 20% 6.3V
C25	1-124-589-11	s	ELECT 47uF 20% 16V
C26	1-131-377-00	s	TANTALUM 10uF 10% 10V
C32	1-131-365-00	s	TANTALUM 10uF 10% 20V
C33	1-126-096-11	s	ELECT 10uF 20% 25V
C35	1-126-096-11	s	ELECT 10uF 20% 25V
C36	1-126-096-11	s	ELECT 10uF 20% 25V
C37	1-126-096-11	s	ELECT 10uF 20% 25V
C40	1-124-589-11	s	ELECT 47uF 20% 16V
C42	1-126-176-11	s	ELECT 220uF 20% 10V
C43	1-124-120-11	s	ELECT 220uF 20% 25V
C44	1-124-638-11	s	ELECT 22uF 20% 10V
C46	1-124-229-00	s	ELECT 33uF 20% 10V
C49	1-131-361-00	s	TANTALUM 2.2MF 10% 20V
C51	1-124-638-11	s	ELECT 22uF 20% 10V
C52	1-124-638-11	s	ELECT 22uF 20% 10V
C53	1-124-638-11	s	ELECT 22uF 20% 10V
CN1	1-566-268-21	o	CONNECTOR, BOARD TO BOARD 6P
CN2	1-566-274-21	o	CONNECTOR, BOARD TO BOARD 12P
D1	8-719-105-28	s	RD2.4M-B
D2	8-719-100-05	s	1S2837
IC1	8-759-420-12	s	MN3801: MATHUSHITA
IC2	8-758-150-00	s	CX815: SONY
IC3	8-759-209-15	s	TC4SU69F: TOSHIBA
L1	1-408-422-00	s	120uH
L4	1-410-470-11	s	10uH
L5	1-408-413-00	s	22uH
L7	1-410-470-11	s	10uH
L8	1-410-470-11	s	10uH
L9	1-408-413-00	s	22uH Ser.No 40001 ~ 42080
L10	1-408-413-00	s	22uH
L11	1-408-425-00	s	220uH
L12	1-408-429-00	s	470uH

Ref. No.	Part No.	SP	Description
Q1	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-729-100-75	s	2SA812-M5
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-100-75	s	2SA812-M5
Q10	8-729-100-75	s	2SA812-M5
Q12	8-729-122-63	s	2SA1226-E3
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-122-63	s	2SA1226-E3
Q15	8-729-102-65	s	2SC2757-T32
Q16	8-729-102-65	s	2SC2757-T32
Q17	8-729-102-65	s	2SC2757-T32
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-66	s	2SC1623-L6
Q22	8-729-100-66	s	2SC1623-L6
Q23	8-729-109-41	s	2SK94-X1
Q24	8-729-100-66	s	2SC1623-L6
Q25	8-729-100-66	s	2SC1623-L6
Q27	8-729-100-75	s	2SA812-M5
Q28	8-729-100-66	s	2SC1623-L6
Q29	8-729-100-66	s	2SC1623-L6
Q30	8-729-100-66	s	2SC1623-L6
Q31	8-729-122-63	s	2SA1226-E4
Q32	8-729-100-66	s	2SC1623-L6
Q33	8-729-100-66	s	2SC1623-L6
Q34	8-729-122-63	s	2SA1226-E4
Q35	8-729-100-75	s	2SA812-M5
Q36	8-729-122-63	s	2SA1226-E4
Q37	8-729-100-75	s	2SA812-M5
Q38	8-729-100-75	s	2SA812-M5
Q39	8-729-100-66	s	2SC1623-L6
Q40	8-729-100-75	s	2SA812-M5
Q41	8-729-100-66	s	2SC1623-L6
Q42	8-729-100-75	s	2SA812-M5
Q43	8-729-100-75	s	2SA812-M5
Q44	8-729-100-75	s	2SA812-M5
R6	1-216-748-11	s	RES ,CHIP 39K 5% 1/10W
R13	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
RV1	1-226-773-11	s	METAL 22K
RV2	1-226-772-11	s	METAL 4.7K
RV3	1-228-519-00	s	METAL 2.2K
RV4	1-226-772-11	s	METAL 4.7K
RV5	1-228-395-00	s	METAL 10K
RV6	1-226-702-00	s	METAL 2.2K
S1	1-553-977-00	s	SWITCH, SLIDE

Ref. No.	Part No.	SP	Description
MB-190 BOARD			
	A-7513-838-A	o	MOUNTED CIRCUIT BOARD "MB-190"
C1	1-124-584-00	s	ELECT 100uF 20% 10V
C3	1-124-148-00	s	ELECT 100uF 20% 25V
C7	1-124-148-00	s	ELECT 100uF 20% 25V
C8	1-124-148-00	s	ELECT 100uF 20% 25V
CN1	1-565-781-11	o	CONNECTOR,TX(S.S) (PC BOARD)50P
CN2	1-565-781-11	o	CONNECTOR,TX(S.S) (PC BOARD)50P
CN3	1-566-579-11	o	CONNECTOR, MULTI 50P
CN4	1-566-512-11	s	CONNECTOR, FPC (ZIF) 12P
CN5	1-506-490-21	o	PIN, CONNECTOR 11P
CN6	1-506-471-11	o	CONNECTOR, 6P, MALE
	1-562-151-11	o	PLUG HOUSING 6P
	1-564-026-11	o	PLUG CONTACT
CN7	1-566-199-11	o	PIN, CONNECTOR (PC BOARD) 6P
CN8	1-506-467-11	o	CONNECTOR, 2P, MALE
CN9	1-506-487-11	o	CONNECTOR, 8P, MALE
	1-562-153-11	o	PLUG HOUSING, 8P
	1-564-026-00	o	PLUG CONTACT
CN10	1-560-356-00	o	CONNECTOR POST HEADER, ILG (2P)
CN11	1-506-468-11	o	CONNECTOR, 3P, MALE
CN13	1-506-487-11	o	CONNECTOR, 8P, MALE
	1-562-153-11	o	PLUG HOUSING, 8P
	1-564-026-00	o	PLUG CONTACT
CN14	1-506-481-11	o	CONNECTOR, 2P, MALE
CN15	1-506-481-11	o	CONNECTOR, 2P, MALE
CN16	1-506-481-11	o	CONNECTOR, 2P, MALE
CN17	1-506-481-11	o	CONNECTOR, 2P, MALE
	1-562-147-11	o	PLUG HOUSING, 2P
	1-564-026-00	o	PLUG CONTACT
CN18	1-506-469-11	o	CONNECTOR, 4P, MALE
CN19	1-506-472-11	o	CONNECTOR, 7P, MALE
CN21	1-506-482-11	o	CONNECTOR, 3P, MALE
CN22	1-565-210-11	s	CONNECTOR, FPC (ZIF) 30P
D1	8-719-108-13	s	1S955
D2	8-719-108-13	s	1S955
D3	8-719-105-93	s	RD5.6M-B1
IC1	8-759-700-07	s	NJM2903M: JRC
IC2	8-759-209-69	s	TC4S11F-TE85L: TOSHIBA
IC3	8-759-205-06	s	TC74HC74F: TOSHIBA
L1	1-408-096-00	s	470UH
L2	1-408-096-00	s	470UH
L3	1-408-785-21	s	CHIP 47UH
PU1	1-466-039-11	s	DC-DC CONVERTER

Ref. No.	Part No.	SP	Description
Q1	8-729-100-66	s	2SC1623-L6
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-729-109-41	s	2SK94-X1
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-199-91	s	2SD999-CM
Q9	8-729-101-07	s	2SB798-DL
Q10	8-729-100-75	s	2SA812-M5
Q11	8-729-100-75	s	2SA812-M5
Q12	8-729-100-75	s	2SA812-M5
Q13	8-729-100-66	s	2SC1623-L6
R4	1-216-671-11	s	METAL FILM CHIP 6.8K 0.5% 1/10W
	Ser.No. 40921 and higher		
R5	1-216-637-11	s	METAL FILM CHIP 270 0.5% 1/10W
	Ser.No. 40921 and higher		
R6	1-216-677-11	s	METAL FILM CHIP 12K 0.5% 1/10W
	Ser.No. 40921 and higher		
R7	1-216-683-11	s	METAL FILM CHIP 22K 0.5% 1/10W
	Ser.No. 40921 and higher		
R8	1-216-683-11	s	METAL FILM CHIP 22K 0.5% 1/10W
	Ser.No. 40921 and higher		
R21	1-249-399-11	s	CARBON 33 5% 1/4W
R22	1-249-399-11	s	CARBON 33 5% 1/4W
!R27	1-216-369-11	s	METAL OXIDE FILM 1 5% 2W

PA-73 BOARD

	A-7513-831-A	o	MOUNTED CIRCUIT BOARD "PA-73"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-565-164-11	o	TERMINAL, SOLDERLESS
	1-566-987-11	o	TERMINAL, SOLDERLESS
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C6	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C8	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C9	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C22	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C23	1-126-162-11	s	ELECT 3.3uF 20% 50V
C24	1-126-162-11	s	ELECT 3.3uF 20% 50V
C25	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V

Ref. No.	Part No.	SP	Description
CN1	1-565-794-11	o	HOUSING, CONNECTOR 13P
	1-565-132-11	o	HOUSING, CONNECTOR 13P
CN2	1-566-989-11	o	HOUSING, CONNECTOR 3P
	1-565-122-11	o	HOUSING, CONNECTOR 3P
CN3	1-562-147-11	o	HOUSING, CONNECTOR 2P
CV1	1-141-284-00	s	CAP, TRIMMER
D1	8-719-100-05	s	1S2837
LP1	1-235-839-11	s	FILTER, LOW PASS
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-100-75	s	2SA812-M5
Q3	8-769-401-67	s	3SK163-1
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-769-401-67	s	3SK163-1
Q7	8-729-100-66	s	2SC1623-L6
Q11	8-729-100-75	s	2SA812-M5
Q12	8-769-401-67	s	3SK163-1
Q13	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-75	s	2SA812-M5
Q22	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
R3	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
R10	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
R32	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R33	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R35	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R36	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R46	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W

Ref. No.	Part No.	SP	Description
PA-74 BOARD			
	A-7513-832-A	o	MOUNTED CIRCUIT BOARD "PA-74"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-565-164-11	o	TERMINAL, SOLDERLESS
	1-566-987-11	o	TERMINAL, SOLDERLESS
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C6	1-131-367-00	s	TANTALUM 22uF 10% 20V
C8	1-131-367-00	s	TANTALUM 22uF 10% 20V
C9	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C15	1-163-111-00	s	CERAMIC, CHIP 56PF 5% 50V
C22	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C24	1-126-162-11	s	ELECT 3.3uF 20% 50V
C25	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C27	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
CN1	1-565-794-11	o	HOUSING, CONNECTOR 13P
	1-565-132-11	o	HOUSING, CONNECTOR 13P
CN2	1-566-989-11	o	HOUSING, CONNECTOR 3P
	1-565-122-11	o	HOUSING, CONNECTOR 3P
CN3	1-562-147-11	o	HOUSING, CONNECTOR 2P
CV1	1-141-284-00	s	CAP, TRIMMER
D1	8-719-100-05	s	1S2837
LP1	1-235-839-11	s	FILTER, LOW PASS
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-100-75	s	2SA812-M5
Q3	8-769-401-67	s	3SK163-1
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-769-401-67	s	3SK163-1
Q7	8-729-100-66	s	2SC1623-L6
Q11	8-729-100-75	s	2SA812-M5
Q12	8-769-401-67	s	3SK163-1
Q13	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-75	s	2SA812-M5
Q22	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
R3	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
R10	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
R32	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R33	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R35	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R36	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R46	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
PA-75 BOARD			
	A-7513-833-A	o	MOUNTED CIRCUIT BOARD "PA-75"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-565-164-11	o	TERMINAL, SOLDERLESS
	1-566-987-11	o	TERMINAL, SOLDERLESS
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C6	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C8	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C9	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C22	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C27	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
CN1	1-565-794-11	o	HOUSING, CONNECTOR 13P
	1-565-132-11	o	HOUSING, CONNECTOR 13P
CN2	1-566-990-11	o	HOUSING, CONNECTOR 4P
	1-565-123-11	o	HOUSING, CONNECTOR 4P
CN3	1-562-147-11	o	HOUSING, CONNECTOR 2P
CV1	1-141-284-00	s	CAP, TRIMMER
D1	8-719-100-05	s	1S2837
LP1	1-235-839-11	s	FILTER, LOW PASS
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-100-75	s	2SA812-M5
Q3	8-769-401-67	s	3SK163-1
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-769-401-67	s	3SK163-1
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-75	s	2SA812-M5
Q9	8-769-401-67	s	3SK163-1
Q10	8-729-100-66	s	2SC1623-L6

Ref. No.	Part No.	SP	Description
Q11	8-729-100-75	s	2SA812-M5
Q12	8-769-401-67	s	3SK163-1
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-75	s	2SA812-M5
Q15	8-769-401-67	s	3SK163-1
Q16	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-75	s	2SA812-M5
Q22	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
R3	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
R10	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
R22	1-216-088-00	s	METAL, CHIP 43K 5% 1/10W
R32	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R33	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R35	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R36	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R46	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W

PR-111 BOARD

	A-7513-847-A	o	MOUNTED CIRCUIT BOARD "PR-111"(PR-109,VA-70R/G/B)
C1	1-124-638-11	s	ELECT 22uF 20% 10V
C2,C3, C4,C5	1-163-111-00	s	CERAMIC CHIP 56PF 5% 50V Ser No. 41521 and higher (EK)
C14	1-124-589-11	s	ELECT 47uF 20% 16V
C24	1-124-472-11	s	ELECT 470uF 20% 10V
C25	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C26	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C27	1-126-157-11	s	ELECT 10uF 20% 16V
C28	1-126-157-11	s	ELECT 10uF 20% 16V
C29	1-126-157-11	s	ELECT 10uF 20% 16V
C37	1-126-157-11	s	ELECT 10uF 20% 16V
C39	1-124-589-11	s	ELECT 47uF 20% 16V
C41	1-126-157-11	s	ELECT 10uF 20% 16V
C42	1-126-157-11	s	ELECT 10uF 20% 16V
C43	1-126-157-11	s	ELECT 10uF 20% 16V
C44	1-124-472-11	s	ELECT 470uF 20% 10V
C47	1-126-157-11	s	ELECT 10uF 20% 16V
C48	1-126-157-11	s	ELECT 10uF 20% 16V
C50	1-102-106-21	s	CERAMIC 100PF 10% 50V Ser.No 40001 ~ 42080
CN1	1-563-679-21	o	CONNECTOR, BOARD TO BOARD 6P
CN2	1-563-685-21	o	CONNECTOR, BOARD TO BOARD 12P
CN3	1-565-780-11	o	CONNECTOR,TX(P.L) (PC BOARD)50P

Ref. No.	Part No.	SP	Description
D1	8-719-100-05	s	1S2837
D2	8-719-100-05	s	1S2837
D3	8-719-100-05	s	1S2837
D4	8-719-911-19	s	1SS119 Ser.No 40001 ~ 42080
	8-719-100-03	s	1S2835 Ser.No 42081 ~
D6	8-719-914-12	s	HZ4BLL
D7	8-719-914-12	s	HZ4BLL
D8	8-719-914-12	s	HZ4BLL
D9	8-719-100-03	s	1S2835
D10	8-719-100-03	s	1S2835
D12	8-719-105-52	s	RD3.6M-B2
D13	8-719-105-52	s	RD3.6M-B2
DL1	1-415-307-00	s	165nS
DL2	1-415-307-00	s	165nS
DL3	1-415-307-00	s	165nS
IC1	8-759-204-40	s	TC40H027F: TOSHIBA
IC2	8-759-201-50	s	TC40H193F: TOSHIBA
IC3	8-759-201-63	s	TC40H032F: TOSHIBA
IC4	8-759-201-53	s	TC40H000F: TOSHIBA
IC5	8-759-209-97	s	TC4S81F: TOSHIBA
IC6	8-759-209-97	s	TC4S81F: TOSHIBA
IC7	8-759-204-51	s	TC40H008F: TOSHIBA
IC8	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC9	8-759-209-97	s	TC4S81F: TOSHIBA
IC10	8-759-209-97	s	TC4S81F: TOSHIBA
IC11	8-759-209-15	s	TC4SU69F: TOSHIBA
IC12	8-759-209-54	s	TC4S01F: TOSHIBA
IC13	8-759-209-15	s	TC4SU69F: TOSHIBA
IC14	8-759-209-90	s	TC4S71F: TOSHIBA
IC15	8-759-209-90	s	TC4S71F: TOSHIBA
IC16	8-759-209-90	s	TC4S71F: TOSHIBA
IC17	8-759-209-90	s	TC4S71F: TOSHIBA
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-102-65	s	2SC2757-T32
Q3	8-729-102-65	s	2SC2757-T32
Q4	8-729-102-65	s	2SC2757-T32
Q5	8-729-109-41	s	2SK94-X1
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-901-46	s	DTA114YK
Q8	8-729-900-52	s	DTC114YK
Q9	8-729-900-52	s	DTC114YK
Q10	8-729-100-75	s	2SA812-M5
Q11	8-729-100-75	s	2SA812-M5
Q12	8-729-100-75	s	2SA812-M5
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-75	s	2SA812-M5
Q15	8-729-100-75	s	2SA812-M5

Ref. No.	Part No.	SP	Description
Q16	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-75	s	2SA812-M5
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-66	s	2SC1623-L6
Q22	8-729-100-66	s	2SC1623-L6
Q23	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
Q25	8-729-100-66	s	2SC1623-L6
Q26	8-729-901-46	s	DTA114YK
Q31	8-729-100-75	s	2SA812-M5
Q32	8-729-100-75	s	2SA812-M5
Q33	8-729-100-66	s	2SC1623-L6
Q34	8-729-100-66	s	2SC1623-L6
R24	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R25	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R26	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R27	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R28	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R29	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R30	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R31	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R32	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R33	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R34	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R35	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R69	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R70	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R78	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R79	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R84	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R85	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
RV1	1-226-703-11	s	METAL 10K
RV2	1-226-771-11	s	METAL 1K
RV3	1-226-771-11	s	METAL 1K
RV4	1-226-771-11	s	METAL 1K
RV5	1-226-771-11	s	METAL 1K
RV6	1-238-222-11	s	METAL 4.7K
RV7	1-238-222-11	s	METAL 4.7K
RV8	1-238-222-11	s	METAL 4.7K
RV9	1-226-702-00	s	METAL 2.2K
RV10	1-226-702-00	s	METAL 2.2K
RV11	1-226-702-00	s	METAL 2.2K
RV12	1-238-225-11	s	METAL 47K
RV13	1-238-225-11	s	METAL 47K
RV14	1-238-225-11	s	METAL 47K
RV15	1-238-225-11	s	METAL 47K
RV16	1-238-225-11	s	METAL 47K

Ref. No.	Part No.	SP	Description
PR-109 BOARD			
	A-7513-848-A	o	MOUNTED CIRCUIT BOARD "PR-109"
C2	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C3	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C9	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C11	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C15	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C16	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
CN1	1-566-094-11	o	PIN, BOARD TO BOARD 9P
CN2	1-566-093-11	o	PIN, BOARD TO BOARD 8P
D1	8-719-100-03	s	1S2835
D2	8-719-100-03	s	1S2835
D3	8-719-942-31	s	HZ3ALL
D4	8-719-100-03	s	1S2835
D5	8-719-100-03	s	1S2835
IC1	8-759-030-16	s	TL062ACPS: TI
IC2	8-759-030-16	s	TL062ACPS: TI
Q1	8-729-100-66	s	2SC1623-L6
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-109-41	s	2SK94-X1
Q5	8-729-122-63	s	2SA1226
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-102-65	s	2SC2757-T32
Q9	8-729-109-41	s	2SK94-X1
Q10	8-729-402-78	s	XN6401
Q11	8-729-402-78	s	XN6401
Q12	8-729-402-19	s	XN6501
Q13	8-729-100-66	s	2SC1623-L6

Ref. No.	Part No.	SP	Description
R15	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R16	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R17	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R18	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R19	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R22	1-216-648-11	s	METAL, CHIP 750 0.5% 1/10W
R23	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R24	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R26	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R27	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R28	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
RV1	1-238-219-11	s	METAL 470
RV2	1-238-222-11	s	METAL 4.7K

VA-70 BOARD

	A-7513-849-A	o	MOUNTED CIRCUIT BOARD "VA-70R"
	A-7513-850-A	o	MOUNTED CIRCUIT BOARD "VA-70G"
	A-7513-851-A	o	MOUNTED CIRCUIT BOARD "VA-70B"
C1	1-163-088-00	s	CERAMIC, CHIP 5PF 50V(G,R) Ser.No 40001 ~ 42080
C2	1-163-088-00	s	CERAMIC, CHIP 5PF 50V(B,R)
C3	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C9	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C10	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C13	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C14	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C17	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C18	1-135-099-00	s	TANTALUM, CHIP 2.2uF 10% 6.3V
C21	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C23	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C25	1-102-942-00	s	CERAMIC 5PF ±0.5PF 50V (G,R) Ser No. 42081 ~ 42850
	1-102-936-00	s	CERAMIC 3PF ±0.25PF 50V (B) Ser No. 42081 ~ 42850
	1-163-088-00	s	CERAMIC 5PF ±0.25PF 50V (G,R) Ser No. 42851 ~
	1-163-086-00	s	CERAMIC 3PF ±0.25PF 50V (B) Ser No. 42851 ~

Ref. No.	Part No.	SP	Description
CN1	1-566-093-11	o	PIN, BOARD TO BOARD 8P
CN2	1-566-093-11	o	PIN, BOARD TO BOARD 8P
D1	8-719-100-03	s	1S2835 Ser.No 40001 ~ 42080
D2	8-719-100-03	s	1S2835 Ser.No 40001 ~ 42080
D3	8-719-100-03	s	1S2835
D4	8-719-100-03	s	1S2835
D5	8-719-100-03	s	1S2835
D6	8-719-951-12	s	HZ5BLL
D7	8-719-100-03	s	1S2835
IC1	8-759-700-95	s	NJM1496M: JRC
IC2	8-759-030-16	s	TL062ACPS: TI
Q1,Q2	8-729-109-41	s	2SK94-X1 Ser No. 10001 ~ 10920 (UC) 30001 ~ 30610 (J) 40001 ~ 42080 (EK)
	8-729-109-43	s	2SK94-X3 Ser No. 10921 and higher (UC) 30611 and higher (J) 42081 and higher (EK)
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-122-63	s	2SA1226
Q6	8-729-122-63	s	2SA1226
Q7	8-729-100-75	s	2SA812-M5
Q8	8-729-402-19	s	XN6501
Q9	8-729-109-43	s	2SK94-X3
Q10	8-729-109-43	s	2SK94-X3
Q11	8-729-109-43	s	2SK94-X3
Q12	8-729-109-43	s	2SK94-X3
Q13	8-729-402-16	s	XN4608
Q14	8-729-100-75	s	2SA812-M5
Q15	8-729-102-65	s	2SC2757-T32
Q16	8-729-100-66	s	2SC1623 Ser.No 42081 ~
R2	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W (G,R)
R5	1-216-673-11	s	METAL,CHIP 8.2K 0.5% 1/10W
R6	1-216-655-11	s	METAL,CHIP 1.5K 0.5% 1/10W
R7	1-216-667-11	s	METAL,CHIP 4.7K 0.5% 1/10W
R14	1-216-643-11	s	METAL,CHIP 470 0.5% 1/10W
R21	1-216-663-11	s	METAL,CHIP 3.3K 0.5% 1/10W
R32	1-216-691-11	s	METAL,CHIP 47K 0.5% 1/10W
R34	1-216-691-11	s	METAL,CHIP 47K 0.5% 1/10W
R43	1-259-877-00	s	CARBON 1.2M 5% 1/4W (G,R)
	1-259-879-00	s	CARBON 1.8M 5% 1/4W (B) Ser No. 42081 ~ 42850

SW-281 BOARD

	1-627-915-11	o	PRINTED CIRCUIT BOARD "SW-281"

Ref. No.	Part No.	SP	Description
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN3	1-562-151-11	o	HOUSING 6P
S1	1-570-854-11	s	SWITCH, SLIDE
S2	1-570-854-11	s	SWITCH, SLIDE

SW-282 BOARD

	1-627-922-11	o	PRINTED CIRCUIT BOARD "SW-282"
CN4	1-562-148-11	o	HOUSING 3P
CN8	1-562-147-11	o	HOUSING, CONNECTOR 2P
R1	1-249-401-11	s	CARBON 47 5% 1/4W
S1	1-553-739-21	s	SWITCH, TACTILE
S2	1-553-739-21	s	SWITCH, TACTILE
S3	1-553-739-21	s	SWITCH, TACTILE
SW001	1-554-486-00	s	SWITCH, TOGGLE

TG-38 BOARD

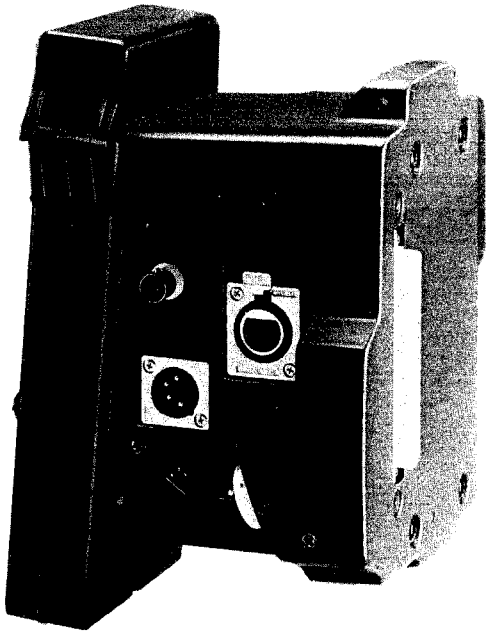
	A-7513-830-A	o	MOUNTED CIRCUIT BOARD "TG-38"
			Ser.No 10001 ~ 10720 (UC)
			30001 ~ 30840 (J)
			40001 ~ 42530 (EK)
	A-7513-998-A	o	MOUNTED CIRCUIT BOARD "TG-38"
			Ser.No 10721 ~ (UC)
			30841 ~ (J)
			42531 ~ (EK)
C4	1-135-125-21	s	TANTALUM,CHIP 33uF 20% 10V
C6	1-163-037-11	s	CERAMIC,CHIP 0.022uF 5% 25V
C7	1-135-125-21	s	TANTALUM,CHIP 33uF 20% 10V
C9	1-163-037-11	s	CERAMIC,CHIP 0.022uF 5% 25V
C10	1-135-124-21	s	TANTALUM,CHIP 22uF 20% 10V
C12	1-163-037-11	s	CERAMIC,CHIP 0.022uF 5% 25V
C13	1-131-374-00	s	TANTALUM 33uF 10% 16V
C21	1-135-124-21	s	TANTALUM,CHIP 22uF 20% 10V
C23	1-163-095-00	s	CERAMIC, CHIP 12P 5% 50V
C24	1-161-051-00	s	CERAMIC 0.01 10% 25V

Ref. No.	Part No.	SP	Description
CN1	1-563-684-11	o	CONNECTOR, BOARD TO BOARD 11P
CN2	1-563-685-11	o	CONNECTOR, BOARD TO BOARD 12P
CN3	1-563-684-11	o	CONNECTOR, BOARD TO BOARD 11P
CN4	1-563-684-11	o	CONNECTOR, BOARD TO BOARD 11P
CP1	1-577-182-11	s	OSCILLATOR, CRYSTAL
IC1	8-752-329-56	s	CXD1155Q: SONY
IC2	8-759-205-03	s	TC74HC27F: TOSHIBA
IC3	8-759-007-62	s	MC74HC74F: MOTOROLA
IC4	8-759-204-96	s	TC74HC04F: TOSHIBA
IC5	8-752-329-33	s	CXD1251Q: SONY
IC1	8-759-747-92	s	MB7114LPF: FUJITSU
L1	1-408-783-00	s	CHIP 33UH
L2	1-408-785-21	s	CHIP 47UH
L3	1-408-783-00	s	CHIP 33UH
Q2	8-729-100-75	s	2SA812-M5
R38	1-247-903-00	s	CARBON 1M 5% 1/4W

FRAME

	1-542-112-11	s	MIC
	1-547-301-11	o	FILTER UNIT, OPTICAL
	1-574-144-11	s	WIRE, FLAT TYPE(12CORE)
	1-574-145-11	s	WIRE, FLAT TYPE(30CORE)
CN101	1-561-781-21	s	SOCKET, DIN 8P
CN102	1-565-653-11	s	CONNECTOR SMALL TYPE 8P
CN104	1-561-781-21	s	SOCKET, DIN 8P
CN105	1-562-222-41	s	RECEPTACLE, 6P FEMALE
SW102	1-553-972-00	s	TOGGLE

CAMERA ADAPTOR



SPECIFICATIONS

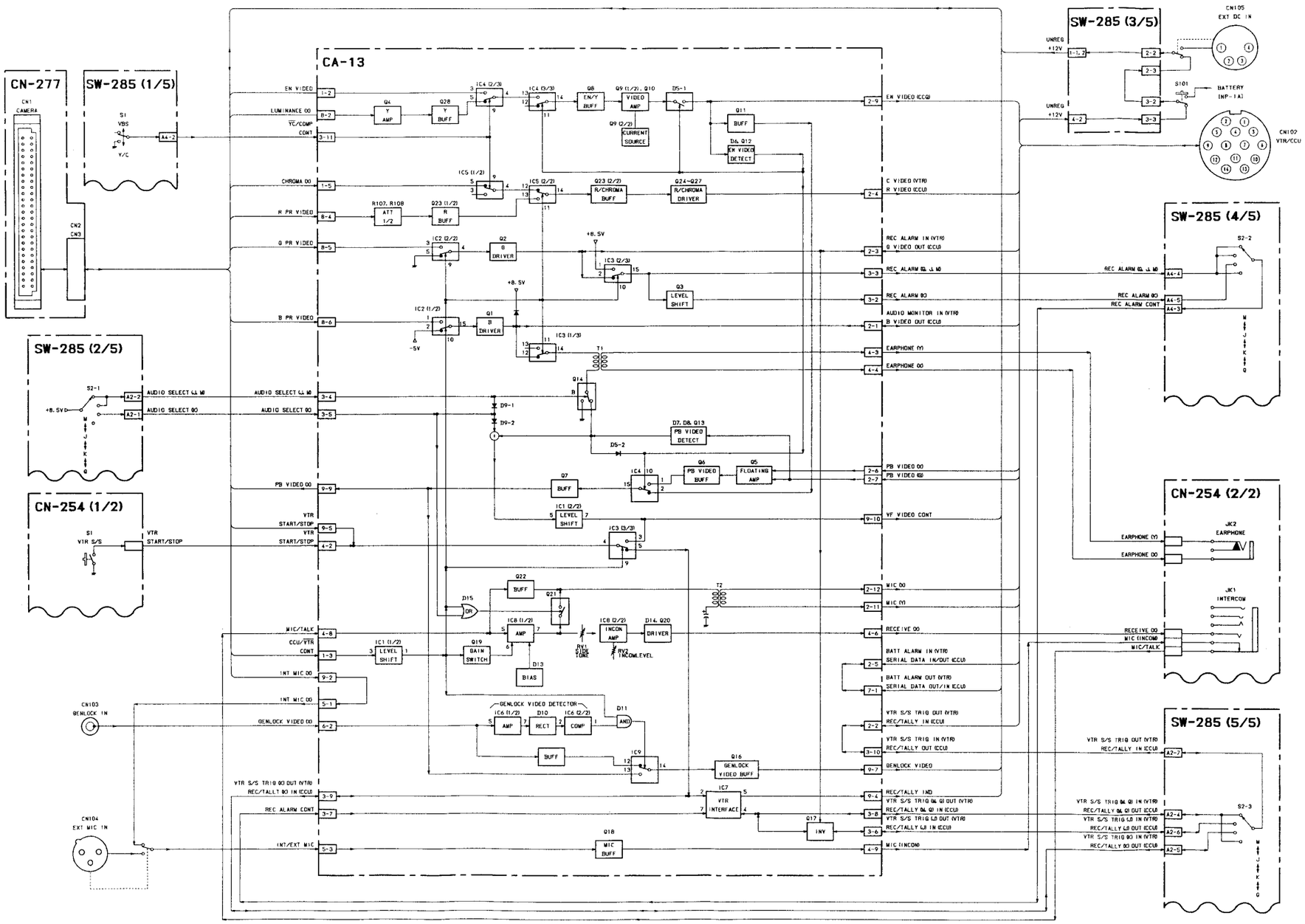
Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin DC IN: XLR-type, Male 4-pin MIC IN: XLR-type, Female, 3-pin, balanced GEN LOCK: BNC-type, 75 ohms, unbalanced EARPHONE: mini jack INTERCOM: mini intercom jack
Power requirements	12 V DC
Weight	Approx. 960 g (2 lb 2 oz)
Dimensions	Approx. 129 × 197 × 148 mm (w/h/d) ($5^1/_8 \times 7^7/_8 \times 5^7/_8$ inches)
Supplied accessories	Screws for attaching the CA-325/325P M4 × 6 (2) M4 × 12 (2) Operating Instructions (1)

Design and specifications are subject to change without notice.

SONY®
SERVICE MANUAL

TABLE OF CONTENTS

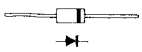
SECTION A
BLOCK DIAGRAM



SECTION B
SEMICONDUCTOR

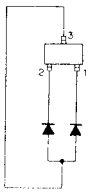
The circuit diagram of is obtained from the IC data book published by the manufacturer.

63 - 1



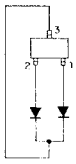
1S2348H

TOP VIEW (SCALE 4/1)



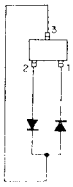
1S2835

TOP VIEW (SCALE 4/1)



1S2837

TOP VIEW (SCALE 4/1)



1SS123

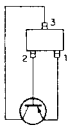
TOP VIEW (SCALE 4/1)

RD ? ?MB ?

TOP VIEW (SCALE 4/1)

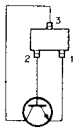
SB05-05CP

TOP VIEW (SCALE 4/1)

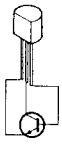


2SA812

TOP VIEW (SCALE 4/1)

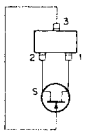


2SC1623

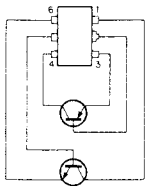


2SC2878

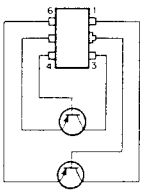
TOP VIEW (SCALE 4/1)



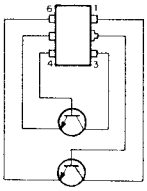
2SK94



XN4608



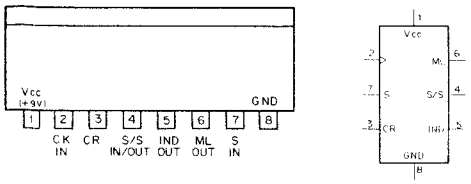
XN6401
XN6435

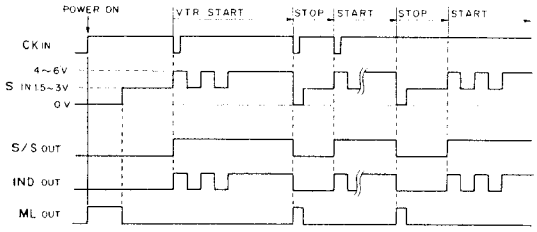


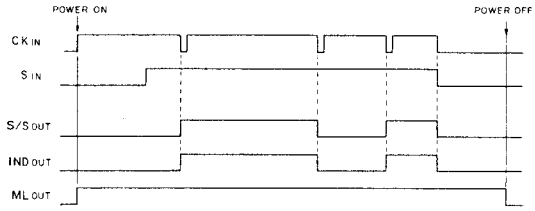
XN6501
XN6534

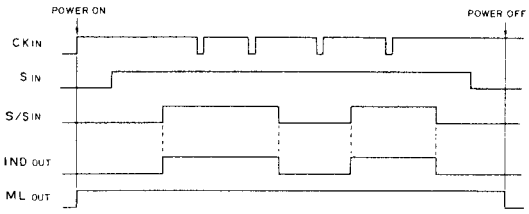
CX518 (SONY)

INTERFACE CIRCUIT BETWEEN VTR AND CAMERA
– SIDE VIEW –



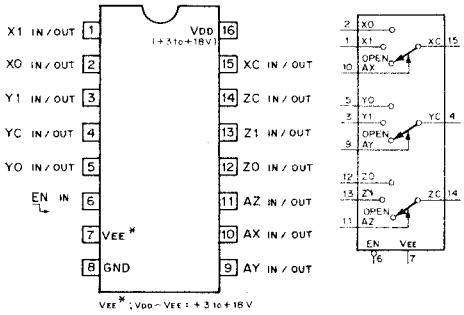






TC4053BF (TOSHIBA) FLAT PACKAGE

C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –

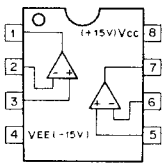


CONT INPUTS		ON
EN	A (X,Y,Z,)	CHANNEL
0	0	0
0	1	1
1	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE.

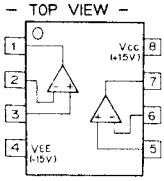
uPC4558G2 (NEC) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –



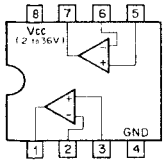
NJM2043M-D (JRC) FLAT PACKAGE
RC2043MC (RAYTHEON) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –



NJM2903M (JRC) FLAT PACKAGE
LM2903M (RAYTHEON) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –

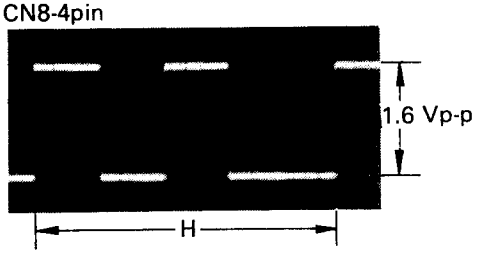


CA-13

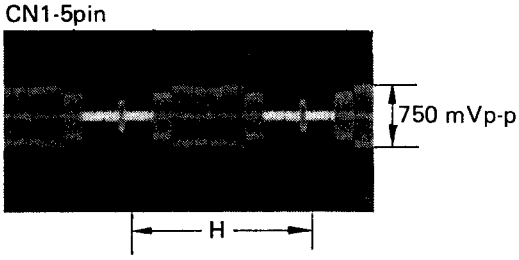
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   - Set camera BARS/WB selector to BARS position.
   - Set camera OUTPUT selector to VBS position.

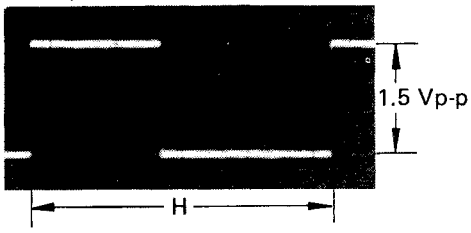
CN8-4pin



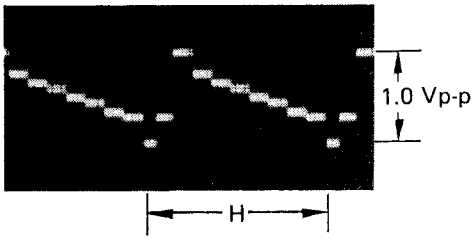
CN1-5pin



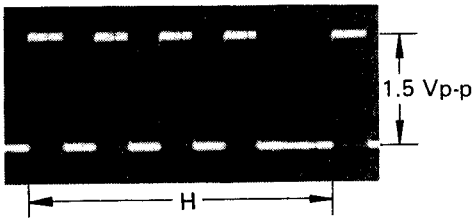
CN8-5pin



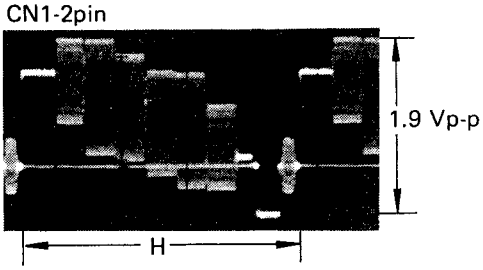
CN8-2pin



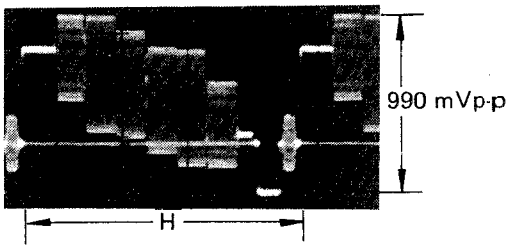
CN8-6pin



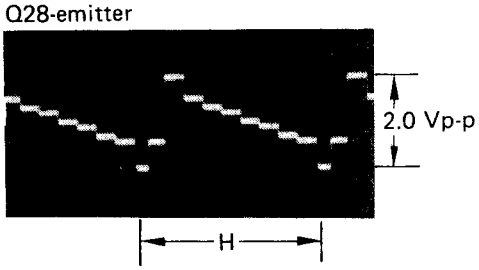
CN1-2pin



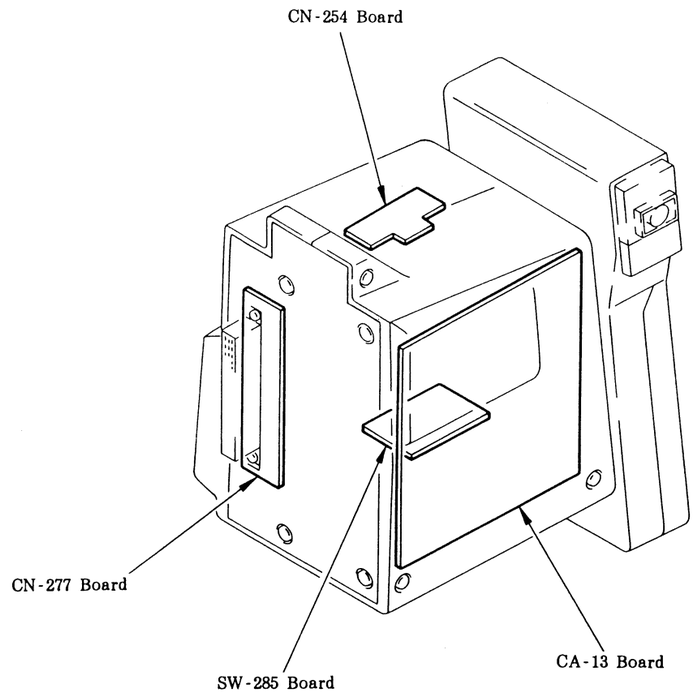
CN2-9pin



Q28-emitter



SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRAIONS

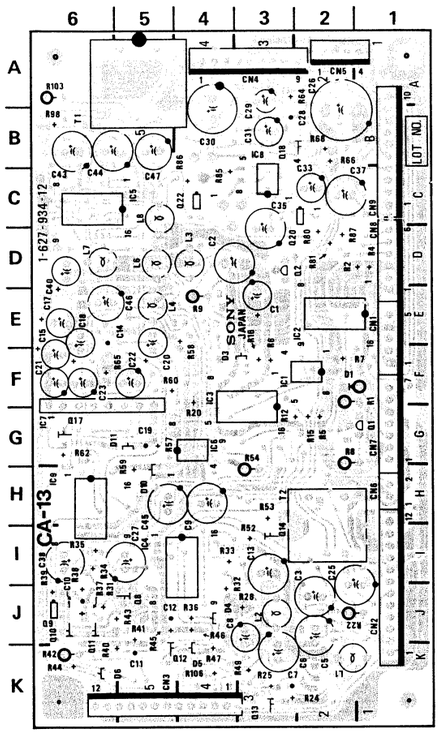


CA-13 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

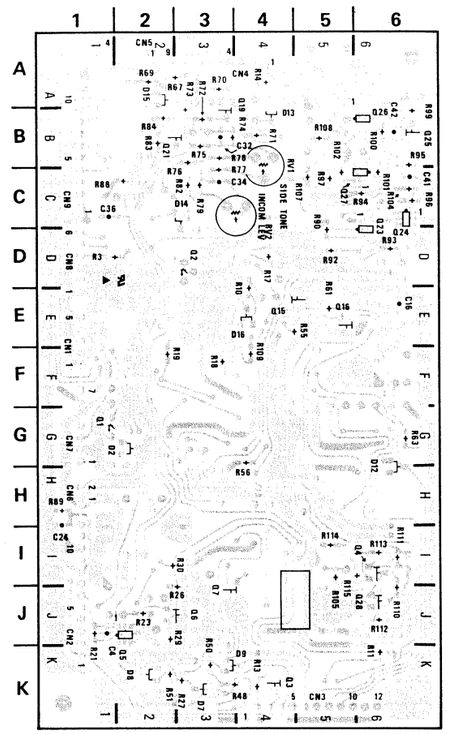
CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3



1-627-934-11 COMPONENT SIDE

C-4 (a)



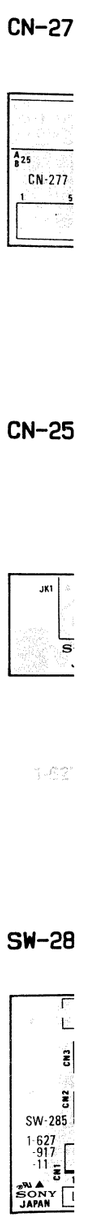
1-627-934-11 SOLDERING SIDE

C-5 (a)

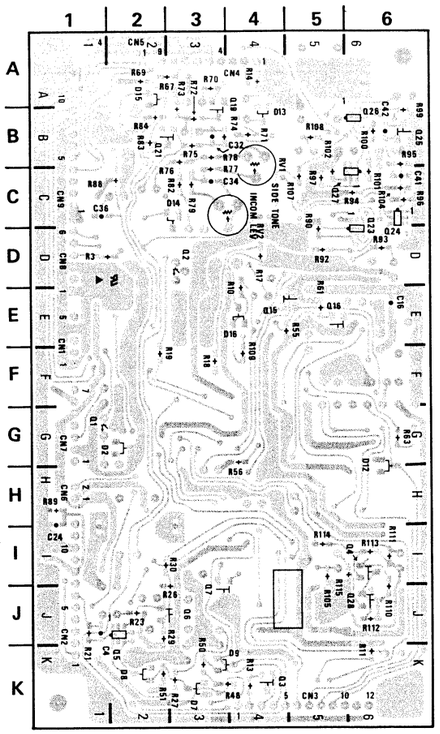
CA-13, CN-254, CN-277, CN-285

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3



CA-13, CN-254, CN-277, CN-285

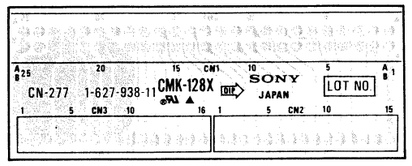


1-627-934-11 SOLDERING SIDE

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3

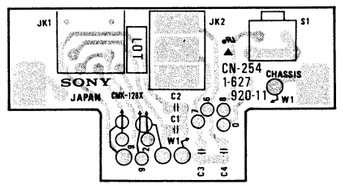
CN-277 BOARD



1-627-938-11 COMPONENT SIDE

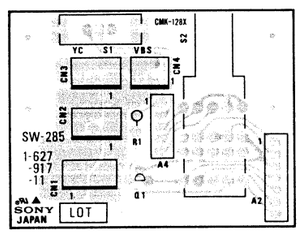
CN-254 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)



1-627-920-11 COMPONENT SIDE

SW-285 BOARD



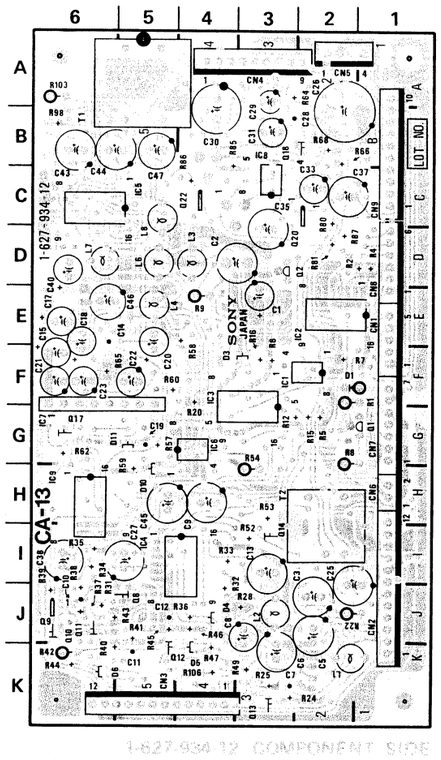
1-627-917-11 COMPONENT SIDE

CA-13 BOARD

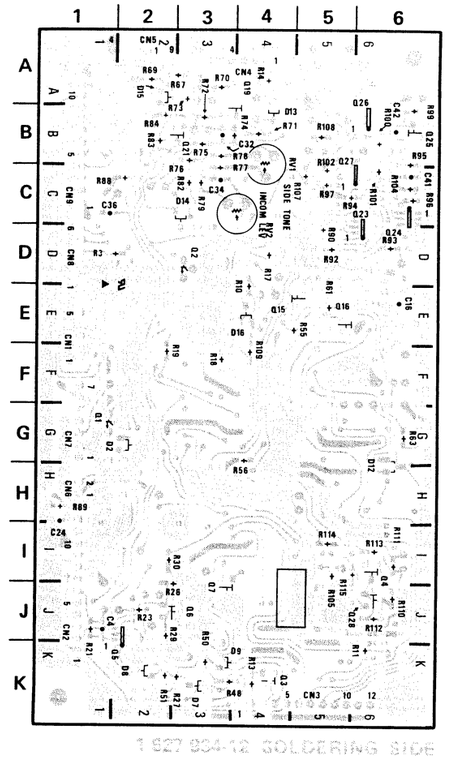
Ser.No.11271-		(UC)
30811-		(J)
42081-		(EK)

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3



C-4 (b)



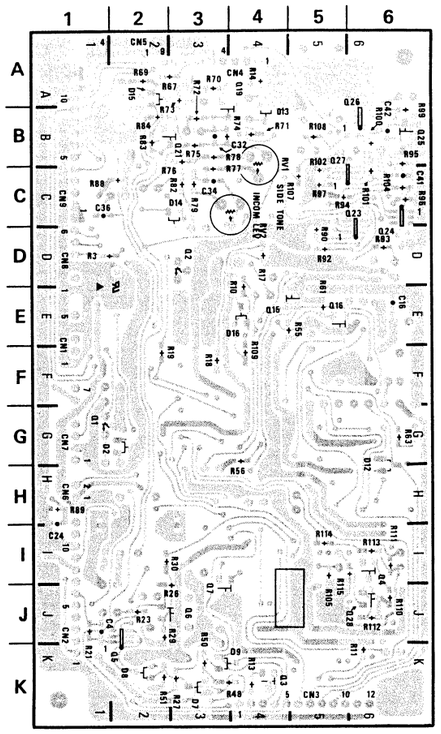
C-5 (b)

CA-13, CN-254, CN-277, CN-285

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3

CA-13, CN-254, CN-277, CN-285

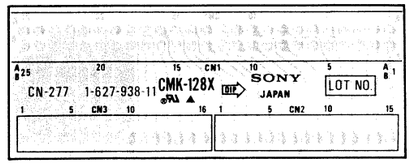


1-627-934-12 SOLDERING SIDE

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3

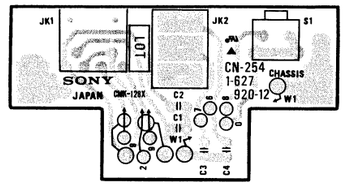
CN-277 BOARD



1-627-938-11 COMPONENT SIDE

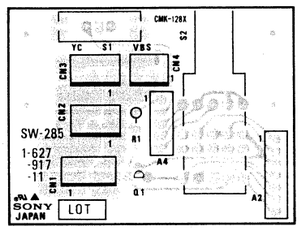
CN-254 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)

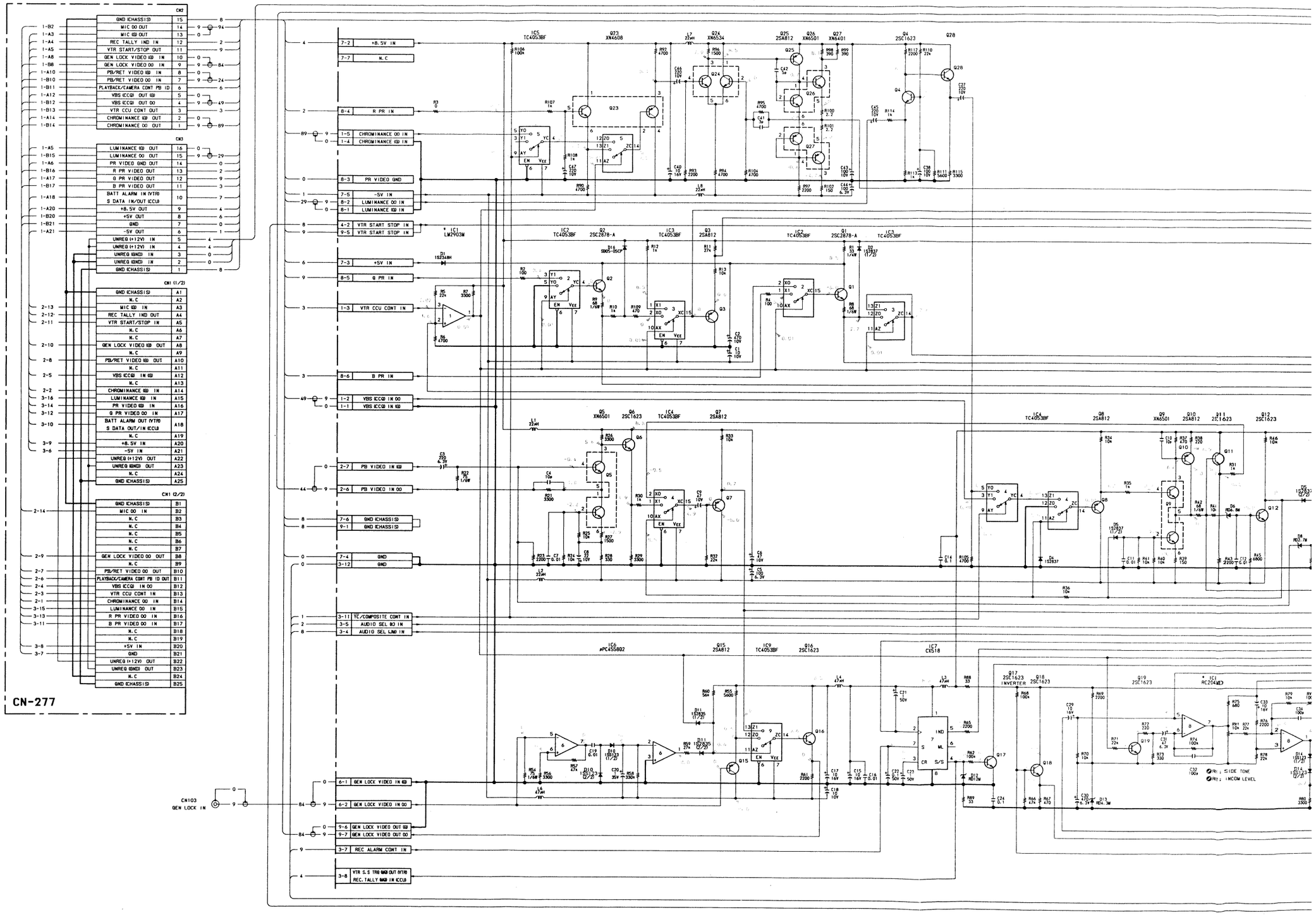


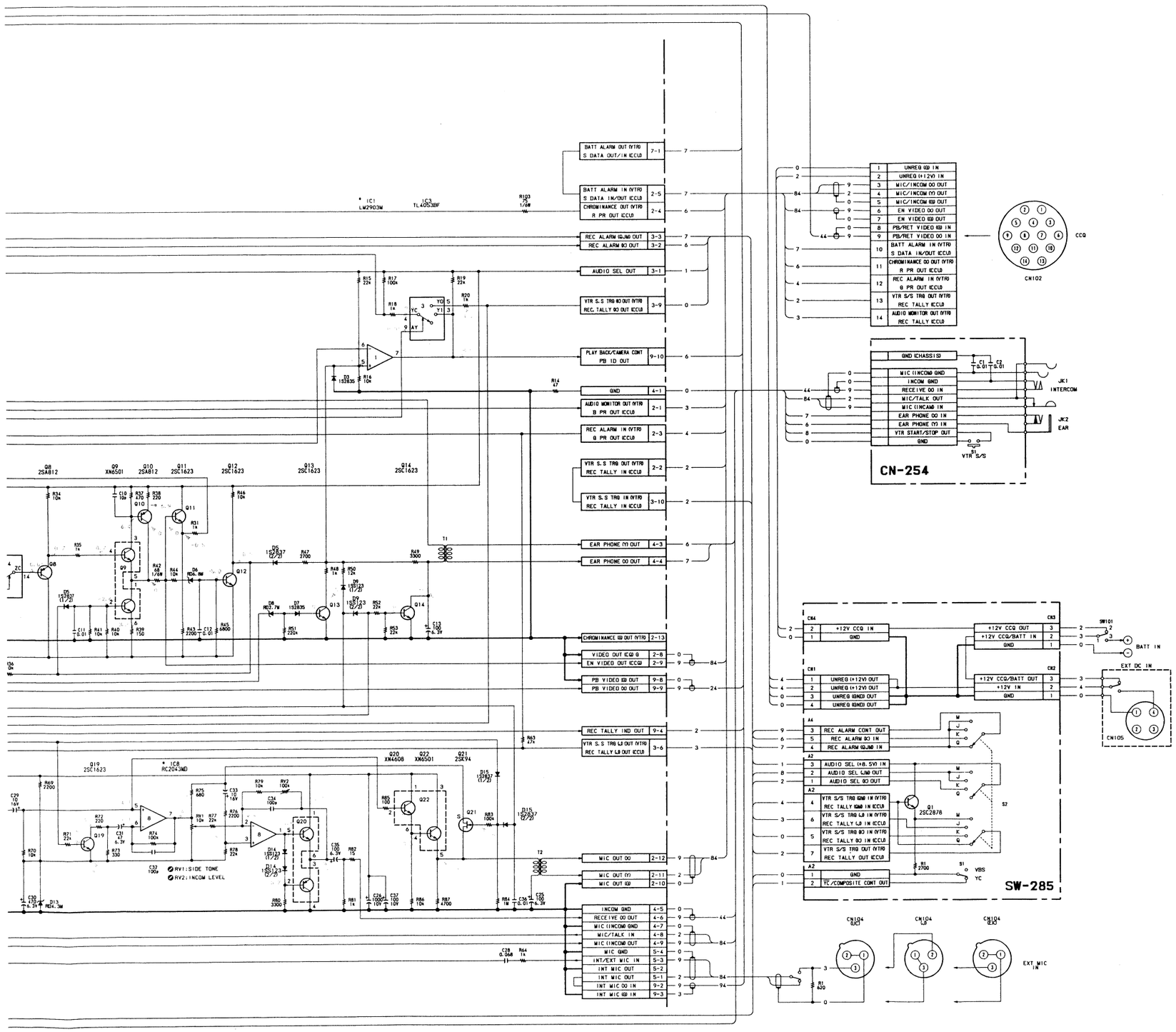
1-627-920-12 COMPONENT SIDE

SW-285 BOARD



1-627-917-11 COMPONENT SIDE


CN-277
CN2
CN3
CN1 (1/2)
CN1 (2/2)
CN103 GEN LOCK IN
IC1 LM2903M
IC5 TC4053BF
IC2 TC4053BF
IC3 TC4053BF
IC4 TC4053BF
IC6 μPC455B02
IC7 CX518
IC9 TC4053BF
IC1 RC2043D
R1: SIDE TONE
R2: INCOM LEVEL



* CHANGE INFORMATION

REF. NO	DESCRIPTION	EFECTIVE SER. NO
IC1	NJM2903M	12111 - (UC)
	⟶ LM2903M	30981 - (J)
IC8	MJM2043MD	42871 - (EK)
	⟶ RC2043MD	

No.	Parts No.	SP	Description
1	A-6703-651-E	s	CASE ASSY, BATTERY
2	A-7513-826-A	o	MOUNTED CIRCUIT BOARD "CA-13"
3	X-3664-208-1	s	KNOB ASSY, FADE
4	X-3717-701-4	o	COVER ASSY, TOP, BATTERY
6	1-507-578-12	s	JACK "EAR"
7	1-507-883-11	s	JACK, SMALL TYPE 4P "INTERCOM"
8	1-508-942-12	s	RECEPTACLE, 14P MALE "VTR/CCU/CMA"
9	1-552-665-11	s	SWITCH, MICRO
10	1-554-088-41	s	SWITCH, KEY BOARD "VTR START"
11	1-561-781-41	s	RECEPTACLE, BNC "GEN LOCK"
12	1-563-096-11	s	RECEPTACLE, 3P FEMALE (WITH SW) "MIC IN"
13	1-564-603-11	s	RECEPTACLE, 4P MALE (WITH DC SW) "DC IN"
14	1-566-581-11	o	RECEPTACLE, 50P, FEMALE
15	1-570-491-11	s	SWITCH, ROTARY "VTR"
16	1-627-917-11	o	PRINTED CIRCUIT BOARD "SW-285"
17	1-627-920-11	o	PRINTED CIRCUIT BOARD "CN-254"
18	1-627-938-11	o	PRINTED CIRCUIT BOARD "CN-277"
19	1-571-767-11	s	SWITCH, SLIDE "OUTPUT"
21	2-122-068-01	o	PANEL, CA FRONT
22	2-122-073-01	o	PANEL, CN
23	2-122-075-01	s	COVER (LEFT)
24	2-122-076-01	s	COVER (RIGHT)
25	2-132-225-01	o	PLATE (CCQ), BLIND
26	2-132-226-01	o	PLATE (MIC), BLIND
27	3-676-244-03	s	COVER, SWITCH
28	3-680-604-11	o	PLATE, BLIND
29	3-703-075-01	s	CAP 2, SHAFT
30	3-717-707-02	o	CUSHION (2)
31	3-717-708-01	o	RETAINER, CASE
32	3-717-709-01	o	SHAFT, LID
33	3-718-040-02	o	COVER (1), BATTERY CASE
34	3-718-172-01	o	RETAINER, HOOK

D-4. ELECTRICAL PARTS

CA-13 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-826-A	o	MOUNTED CIRCUIT BOARD "CA-13"
C1	1-131-377-00	s	TANTALUM 10uF 10% 10V
C2	1-124-472-11	s	ELECT 470uF 20% 10V
C3	1-126-176-11	s	ELECT 220uF 20% 10V
C4	1-163-093-00	s	CERAMIC, CHIP 10PF 5% 50V
C5	1-124-225-00	s	ELECT 100uF 20% 6.3V
C6	1-124-589-11	s	ELECT 47uF 20% 16V
C7	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C8	1-124-638-11	s	ELECT 22uF 20% 10V
C9	1-124-589-11	s	ELECT 47uF 20% 16V
C10	1-163-093-00	s	CERAMIC, CHIP 10PF 5% 50V
C11	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C12	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C13	1-124-225-00	s	ELECT 100uF 20% 6.3V
C14	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C15	1-131-365-00	s	TANTALUM 10uF 10% 20V
C16	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C17	1-131-365-00	s	TANTALUM 10uF 10% 20V
C18	1-131-377-00	s	TANTALUM 10uF 10% 10V
C19	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C20	1-131-347-00	s	TANTALUM 1uF 10% 35V
C21	1-124-438-00	s	ELECT 1MF 20% 50V
C22	1-124-463-00	s	ELECT 0.1uF 20% 50V
C23	1-124-438-00	s	ELECT 1MF 20% 50V
C24	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C25	1-124-225-00	s	ELECT 100uF 20% 6.3V
C26	1-124-473-11	s	ELECT 1000uF 20% 10V
C27	1-126-176-11	s	ELECT 220uF 20% 10V
C28	1-163-036-00	s	CERAMIC, CHIP 0.068MF 50V
C29	1-126-157-11	s	ELECT 10uF 20% 16V
C30	1-124-472-11	s	ELECT 470uF 20% 10V
C31	1-126-154-11	s	ELECT 47uF 20% 6.3V
C32	1-163-117-00	s	CERAMIC, CHIP 100PF 5% 50V
C33	1-126-157-11	s	ELECT 10uF 20% 16V
C34	1-163-117-00	s	CERAMIC, CHIP 100PF 5% 50V
C35	1-124-225-00	s	ELECT 100uF 20% 6.3V
C36	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C37	1-124-584-00	s	ELECT 100uF 20% 10V
C38	1-124-584-00	s	ELECT 100uF 20% 10V
C40	1-131-365-00	s	TANTALUM 10uF 10% 20V
C41	1-163-086-00	s	CERAMIC, CHIP 3PF 50V
C42	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C43	1-124-584-00	s	ELECT 100uF 20% 10V
C44	1-124-225-00	s	ELECT 100uF 20% 6.3V
C45	1-126-176-11	s	ELECT 220uF 20% 10V
C46	1-126-176-11	s	ELECT 220uF 20% 10V
C47	1-126-176-11	s	ELECT 220uF 20% 10V

Ref. No.	Part No.	SP	Description
CN1	1-506-470-11	o	CONNECTOR, 5P, MALE
CN2	1-506-477-11	o	CONNECTOR, 12P, MALE
	1-562-157-11	o	PLUG HOUSING, 12P
	1-564-026-00	o	PLUG CONTACT
CN3	1-506-477-11	o	CONNECTOR, 12P, MALE
CN4	1-506-474-11	o	CONNECTOR, 9P, MALE
CN5	1-506-469-11	o	CONNECTOR, 4P, MALE
	1-562-149-11	o	PLUG HOUSING, 4P
	1-564-026-00	o	PLUG CONTACT
CN6	1-506-467-11	o	CONNECTOR, 2P, MALE
	1-562-147-11	o	PLUG HOUSING, 2P
	1-564-026-00	o	PLUG CONTACT
CN7	1-506-472-11	o	CONNECTOR, 7P, MALE
CN8	1-506-471-11	o	CONNECTOR, 6P, MALE
CN9	1-506-475-11	o	CONNECTOR, 10P, MALE
D1	8-719-923-48	s	1S2348H
D2	8-719-100-05	s	1S2837
D3	8-719-100-03	s	1S2835
D4	8-719-100-05	s	1S2837
D5	8-719-100-05	s	1S2837
D6	8-719-106-16	s	RD6.8M-B1
D7	8-719-100-03	s	1S2835
D8	8-719-105-32	s	RD2.7M-B2
D9	8-719-101-23	s	1SS123
D10	8-719-101-23	s	1SS123
D11	8-719-100-03	s	1S2835
D12	8-719-106-70	s	RD12M-B1
D13	8-719-105-63	s	RD4.3M-B1
D14	8-719-101-23	s	1SS123
D15	8-719-100-05	s	1S2837
D16	8-719-938-75	s	SB05-05CP
IC1	8-759-981-66	s	LM2903M: RAYTHEON
IC2	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC3	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC4	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC5	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC6	8-759-103-36	s	UPC4558G2: NEC
IC7	8-759-605-18	s	CX518: SONY
IC8	8-759-981-59	s	RC2043MD: RAYTHEON
IC9	8-759-208-11	s	TC4053BFHB: TOSHIBA
L1	1-408-413-00	s	22uH
L2	1-408-413-00	s	22uH
L3	1-410-478-11	s	47uH
L4	1-410-478-11	s	47uH
L6	1-410-478-11	s	47uH
L7	1-408-413-00	s	22uH
L8	1-408-413-00	s	22uH

Ref. No.	Part No.	SP	Description
Q1	8-729-201-04	s	2SC2878-A
Q2	8-729-201-04	s	2SC2878-A
Q3	8-729-100-75	s	2SA812-M5
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-402-19	s	XN6501
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-100-75	s	2SA812-M5
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-402-19	s	XN6501
Q10	8-729-100-75	s	2SA812-M5
Q11	8-729-100-66	s	2SC1623-L6
Q12	8-729-100-66	s	2SC1623-L6
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-66	s	2SC1623-L6
Q15	8-729-100-75	s	2SA812-M5
Q16	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-402-16	s	XN4608
Q21	8-729-109-41	s	2SK94-X1
Q22	8-729-402-19	s	XN6501
Q23	8-729-402-16	s	XN4608
Q24	8-729-403-34	s	XN6534
Q25	8-729-100-75	s	2SA812-M5
Q26	8-729-402-19	s	XN6501
Q27	8-729-402-78	s	XN6401
Q28	8-729-100-66	s	2SC1623-L6
R1	1-249-399-11	s	CARBON 33 5% 1/4W
R2	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R3	1-216-295-00	s	METAL, CHIP 0-OHM 1/10W
R4	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R5	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R6	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R7	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R8	1-215-393-00	s	METAL 68 1% 1/6W
R9	1-215-393-00	s	METAL 68 1% 1/6W
R10	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R11	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R12	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R13	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R14	1-216-017-00	s	METAL, CHIP 47 5% 1/10W
R15	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W

Ref. No.	Part No.	SP	Description
R16	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R17	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R18	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R19	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R20	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R21	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R22	1-215-394-00	s	METAL 75 1% 1/6W
R23	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R24	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R25	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R26	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R27	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R28	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R29	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R30	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R31	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R32	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R33	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R34	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R35	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R36	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R37	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R38	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R39	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R40	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R41	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R42	1-215-393-00	s	METAL 68 1% 1/6W
R43	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R44	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R45	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R46	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R47	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
R48	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R49	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R50	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R51	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R52	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R53	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R54	1-215-394-00	s	METAL 75 1% 1/6W
R55	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R56	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R57	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R58	1-216-109-00	s	METAL, CHIP 330K 5% 1/10W
R59	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R60	1-216-091-00	s	METAL, CHIP 56K 5% 1/10W
R61	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R62	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R63	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R64	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R65	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W

Ref. No.	Part No.	SP	Description
R66	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R67	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R68	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R69	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R70	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R71	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R72	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R73	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R74	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R75	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R76	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R77	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R78	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R79	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R80	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R81	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R82	1-216-005-00	s	METAL, CHIP 15 5% 1/10W
R83	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R84	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R85	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R86	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R87	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R88	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R89	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R90	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R92	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R93	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R94	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R95	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R96	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R97	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R98	1-216-039-00	s	METAL, CHIP 390 5% 1/10W
R99	1-216-039-00	s	METAL, CHIP 390 5% 1/10W
R100	1-216-298-00	s	METAL, CHIP 2.2 5% 1/10W
R101	1-216-298-00	s	METAL, CHIP 2.2 5% 1/10W
R102	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R103	1-215-394-00	s	METAL 75 1% 1/6W
R104	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R105	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R106	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R107	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R108	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R109	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R110	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R111	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R112	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R113	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R114	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R115	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W

Ref. No.	Part No.	SP	Description
RV1	1-226-703-11	s	METAL 10K
RV2	1-226-775-11	s	METAL 100K
T1	1-427-270-XX	s	TRANSFORMER, OUTPUT
T2	1-427-487-00	s	TRANSFORMER, OUTPUT

CN-254 BOARD

	1-627-920-11	o	PRINTED CIRCUIT BOARD "CN-254"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
C1	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C2	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C3	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C4	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
CN4	1-562-154-11	o	HOUSING 9P
JK1	1-507-883-00	s	JACK, SMALL TYPE 4P
JK2	1-566-740-11	s	JACK
S1	1-554-088-00	s	SWITCH, TACTILE

CN-277 BOARD

	1-627-938-11	o	PRINTED CIRCUIT BOARD "CN-277"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN1	1-562-150-11	o	HOUSING 5P
CN1	1-566-581-11	o	RECEPTACLE,MULTI CONNECTOR 50P
CN5	1-562-149-11	o	HOUSING 4P
CN7	1-562-152-11	o	HOUSING, CONNECTOR 7P
CN8	1-562-151-11	o	HOUSING 6P
CN9	1-562-155-11	o	PLUG HOUSING, 10P

Ref. No.	Part No.	SP	Description

SW-285 BOARD

	1-627-917-11	o	PRINTED CIRCUIT BOARD "SW-285"
	1-562-738-11	o	HOUSING, CONNECTOR 5P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-564-831-11	o	CONTACT, CONNECTOR
CN1	1-506-469-21	o	CONNECTOR, 4P, MALE
CN2	1-506-702-11	o	CONNECTOR POST HEADER,ILG (3P)
	1-561-515-00	o	PLUG HOUSING, 3P
	1-560-372-00	o	PLUG CONTACT
CN3	1-506-702-11	o	CONNECTOR POST HEADER,ILG (3P)
	1-561-515-00	o	PLUG HOUSING, 3P
	1-560-372-00	o	PLUG CONTACT
CN4	1-560-356-00	o	CONNECTOR POST HEADER,ILG (2P)
	1-561-514-00	o	PLUG HOUSING, 2P
	1-560-372-00	o	PLUG CONTACT
Q1	8-729-201-04	s	2SC2878-A
R1	1-249-422-11	s	CARBON 2.7K 5% 1/4W
S1	1-571-767-11	s	SWITCH, SLIDE
S2	1-570-491-11	s	SWITCH, ROTARY

FRAME

CN102	1-508-942-00	s	CONNECTOR, 14P
CN103	1-561-781-31	s	BNC (RECEPTACLE)
CN104	1-563-096-11	s	CONNECTOR (WITH SW) F 3P
CN105	1-564-603-11	s	CONNECTOR (WITH DC SW) 4P
R1	1-247-826-00	s	CABON 620
SW101	1-552-665-00	s	MICRO "BATT IN"

1.5INCH ELECTRONIC VIEWFINDER

SPECIFICATIONS

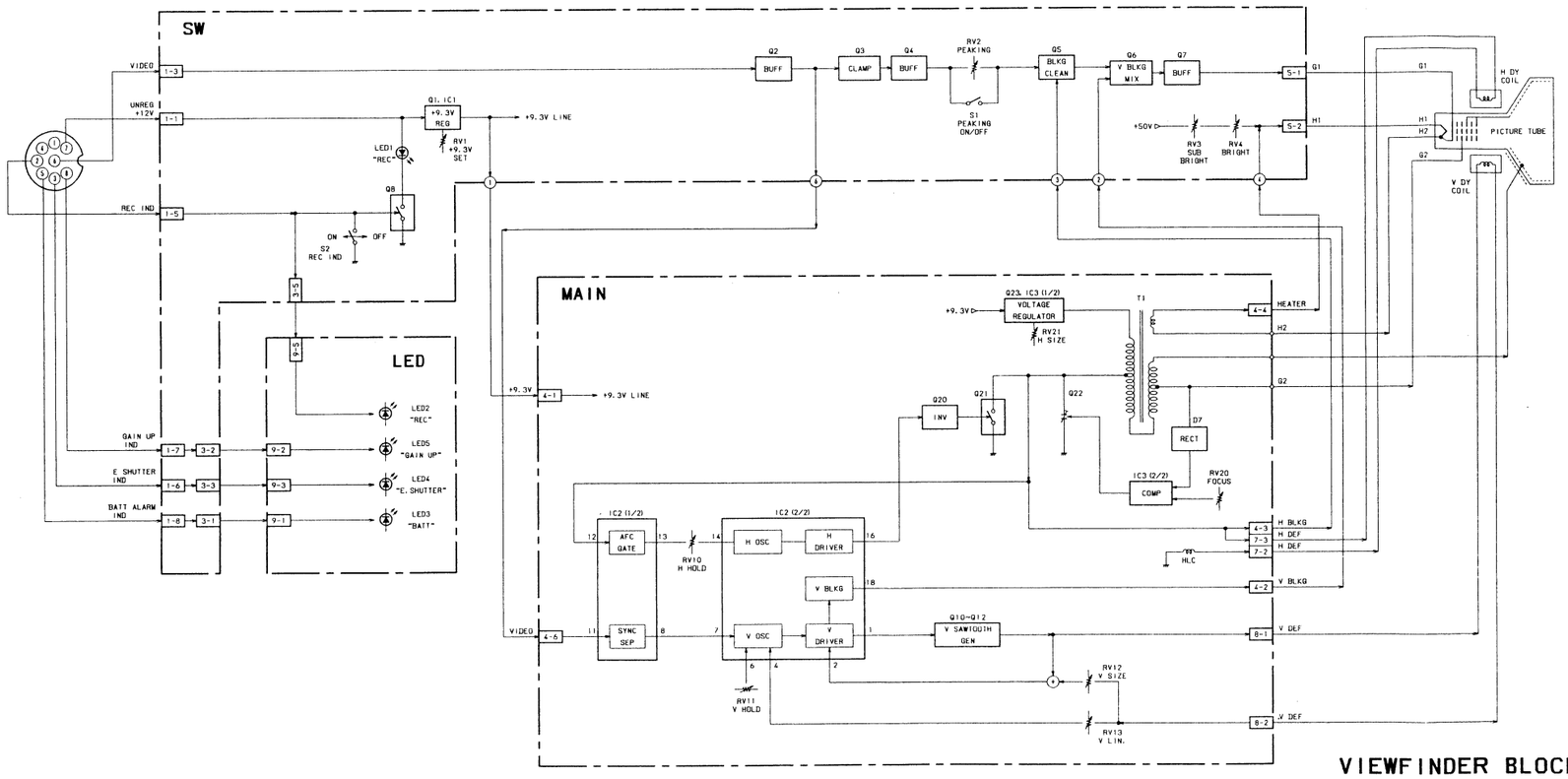
Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator BATT indicator SHUTTER indicator GAIN UP indicator
Resolution	400 lines
Power requirements	12 V DC
Power consumption	2.3 W
Weight	Approx. 500 g (1 lb 2 oz)
Dimensions	Approx. 186 × 63 × 189 mm (w/h/d) ($7^3/_8 \times 2^1/_2 \times 7^1/_2$ inches)
Supplied accessory	Operating Instructions (1)

Design and specifications are subject to change without notice.

SONY®
SERVICE MANUAL

TABLE OF CONTENTS

SECTION A
BLOCK DIAGRAM



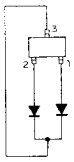
VIEWFINDER BLOCK

SECTION B
SEMICONDUCTOR PIN ASSIGNMENTS

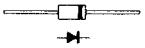
The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

< DIODE >

TOP VIEW (SCALE 4/1)

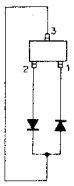


1S2837
DAN202K



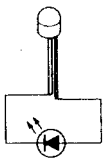
1SS133
1SS136
ERA15-06
ERA22-08

TOP VIEW (SCALE 4/1)



DA204K

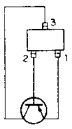
SLH-56VT



TLO102A
TLR109A

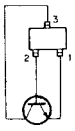
<TRANSISTOR >

TOP VIEW (SCALE 4/1)



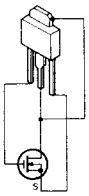
2SA812
2SB624

TOP VIEW (SCALE 4/1)



2SC2812
2SC2814
2SC3722K

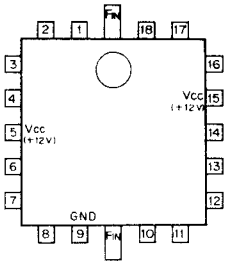
2SD1220

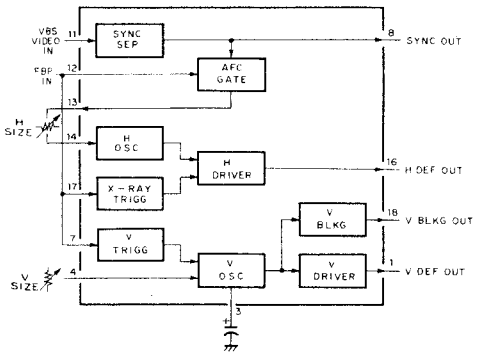


2SK612

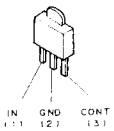
< IC >

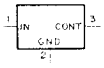
HA11423MP (HITACHI) FLAT PACKAGE
TV H/V SYNC SIGNAL PROCESSOR
– TOP VIEW –



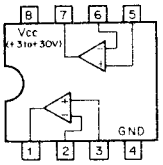


M5236ML (MITSUBISI)
ADJUSTABLE VOLTAGE REGULATOR

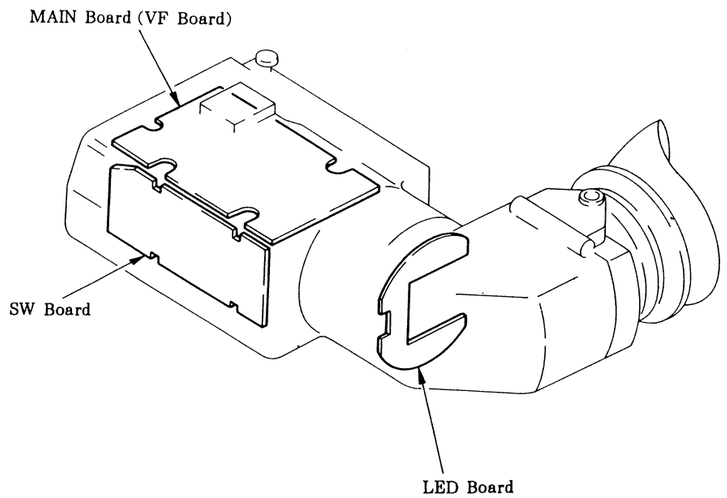




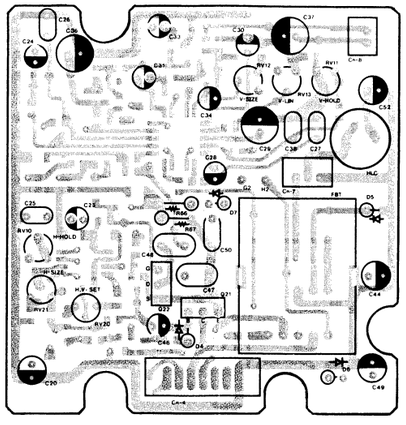
uPC358G2 (NEC) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIERS
– TOP VIEW –



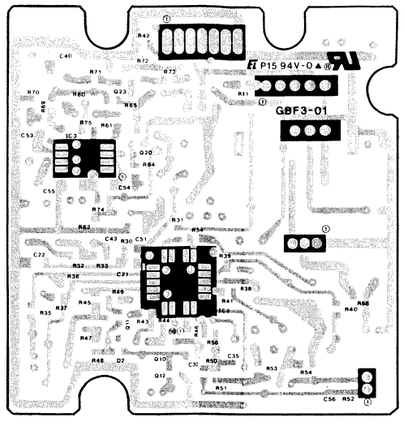
SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS



MAIN BOARD

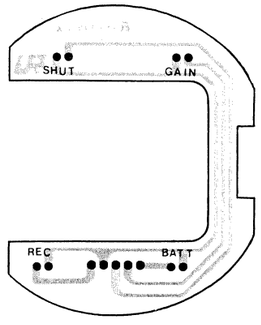


COMPONENT SIDE



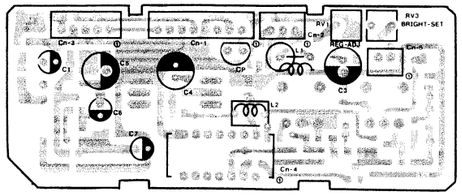
SOLDERING SIDE

LED BOARD

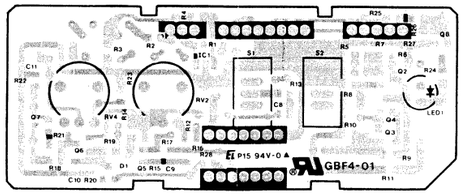


COMPONENT SIDE

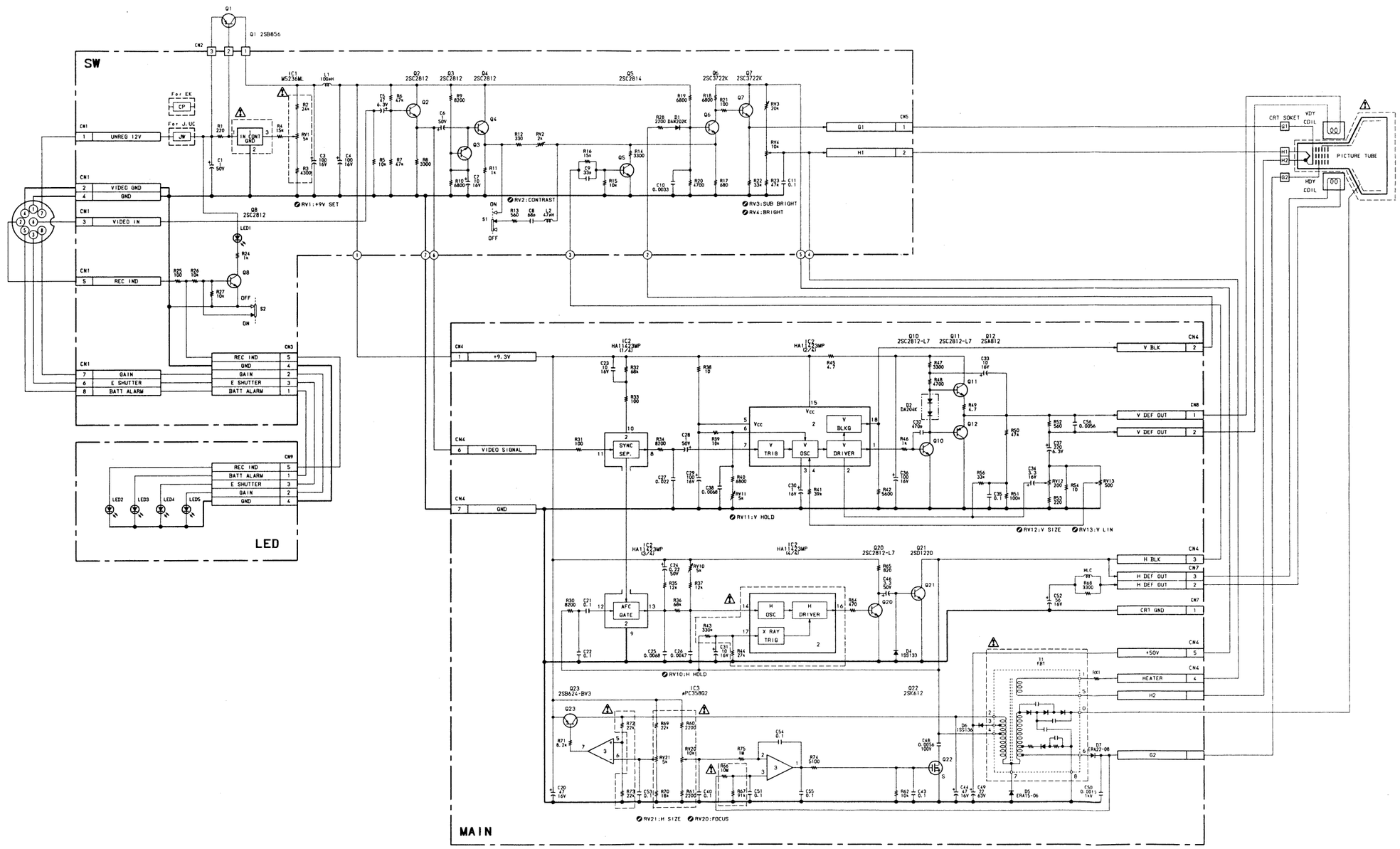
SW BOARD



COMPONENT SIDE



SOLDERING SIDE


MAIN.SW LED
FRAME
FRAME
MAIN.SW LED
SW
LED
MAIN
UNREG 12V
VIDEO GND
GND
VIDEO IN
REC IND
GAIN
E SHUTTER
BATT ALARM
VIDEO SIGNAL
+9.3V
V BLK
V DEF OUT
H BLK
H DEF OUT
CRT GND
+50V
HEATER
H2
G1
H1
G2
CRT SOKET
PICTURE TUBE
RV1:+9V SET
RV2:CONTRAST
RV3:SUB BRIGHT
RV4:BRIGHT
RV10:H HOLD
RV11:V HOLD
RV12:V SIZE
RV13:V LIN
RV21:H SIZE
RV20:FOCUS

SECTION D
SPARE PARTS

D-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ! on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "**accommodating the improved parts and/or engineering changes**" or "**standardization of genuine parts.**" This manual's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer SONY service bulletions and service manual supplements.

3. **The parts marked with "S" in the SP column** of the exploded views and electical spare parts list are nomally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF.No.	DESCRIPTION	REF.No.	DESCRIPTION	REF.No.	DESCRIPTION
C	CAPACITOR	IC	IC	RP	RESISTOR BLOCK
CN	CONNECTOR	J	JACK	RV	VARIABLE RESISTOR
CV	VARIABLE CAPACITOR	L	INDUCTOR	S	SWITCH
D	DIODE	LV	VARIABLE INDUCTOR	T	TRANSFORMER
DL	DELAY LINE	Q	TRANSISTOR	X	OSCILLATOR
FL	FILTER	R	RESISTOR		

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

D-2. SCREWS

+B Bzn-N — 7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-00
x 4	772-10
x 5	772-20
x 6	772-30
x 8	772-40
x 10	772-50
x 12	772-60
x 14	772-70
x 16	772-80
x 20	–
2.6 x 3	775-00
x 4	775-10
x 5	775-20
x 6	773-95
x 8	775-40
x 10	775-50
x 12	775-60
x 14	775-70
x 16	775-80
x 20	775-90

+B Cr-N — 7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

+B Bzn-N — 7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
x 30	555-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09
5 x 8	574-09
x 10	575-09
x 12	576-09
x 14	577-09
x 16	578-09
x 20	579-09

+B Cr-N — 7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-04
x 4	545-04
x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
x 12	563-04
x 14	564-04
x 16	565-04
x 20	566-04
5 x 8	574-04
x 10	575-04
x 12	576-04
x 14	577-04
x 16	578-04
x 20	579-04

+PSW Czn-N — 7-621-□□□-□□

SIZE	Parts No.
2.6 x 5	759-35
x 6	759-45
x 8	759-65
x 10	759-75
x 12	759-85
x 14	759-95
x 16	760-05
x 20	760-15
x 25	760-65

+PSW Czn-N — 7-682-□□□-□□

SIZE	Parts No.
3 x 6	947-01
x 8	948-01
x 10	949-01
x 12	950-01
x 14	951-01
x 16	952-01
x 20	953-01
x 25	954-01
x 30	955-01
x 35	956-01
x 40	957-01
4 x 8	961-01
x 10	962-01
x 12	963-01
x 14	964-01
x 16	965-01
x 20	966-01
x 25	967-01
x 30	968-01
x 35	969-01
x 40	970-01

PRECISION +P Cr-N — 7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	–
x 1.8	–
x 2	552-27
x 2.2	552-87
x 2.5	552-07
x 2.8	–
x 3	552-37
x 3.5	–
x 4	552-47
x 4.5	552-67
x 5	552-57
x 5.5	557-07
x 6	552-77
2 x 1.8	554-37
x 2	553-17
x 2.2	554-07
x 2.5	553-27
x 2.8	–
x 3	553-37
x 3.5	554-17
x 4	553-47
x 4.5	553-57
x 5	553-67
x 5.5	–
x 6	554-27
x 7	553-87
x 8	553-97
x 10	553-77
2.6 x 2.8	556-07
x 3	–
x 3.5	–
x 4	556-37
x 4.5	–
x 5	556-57
x 5.5	–
x 6	556-77
x 7	–
x 8	556-97
x 9	–
x 10	557-47

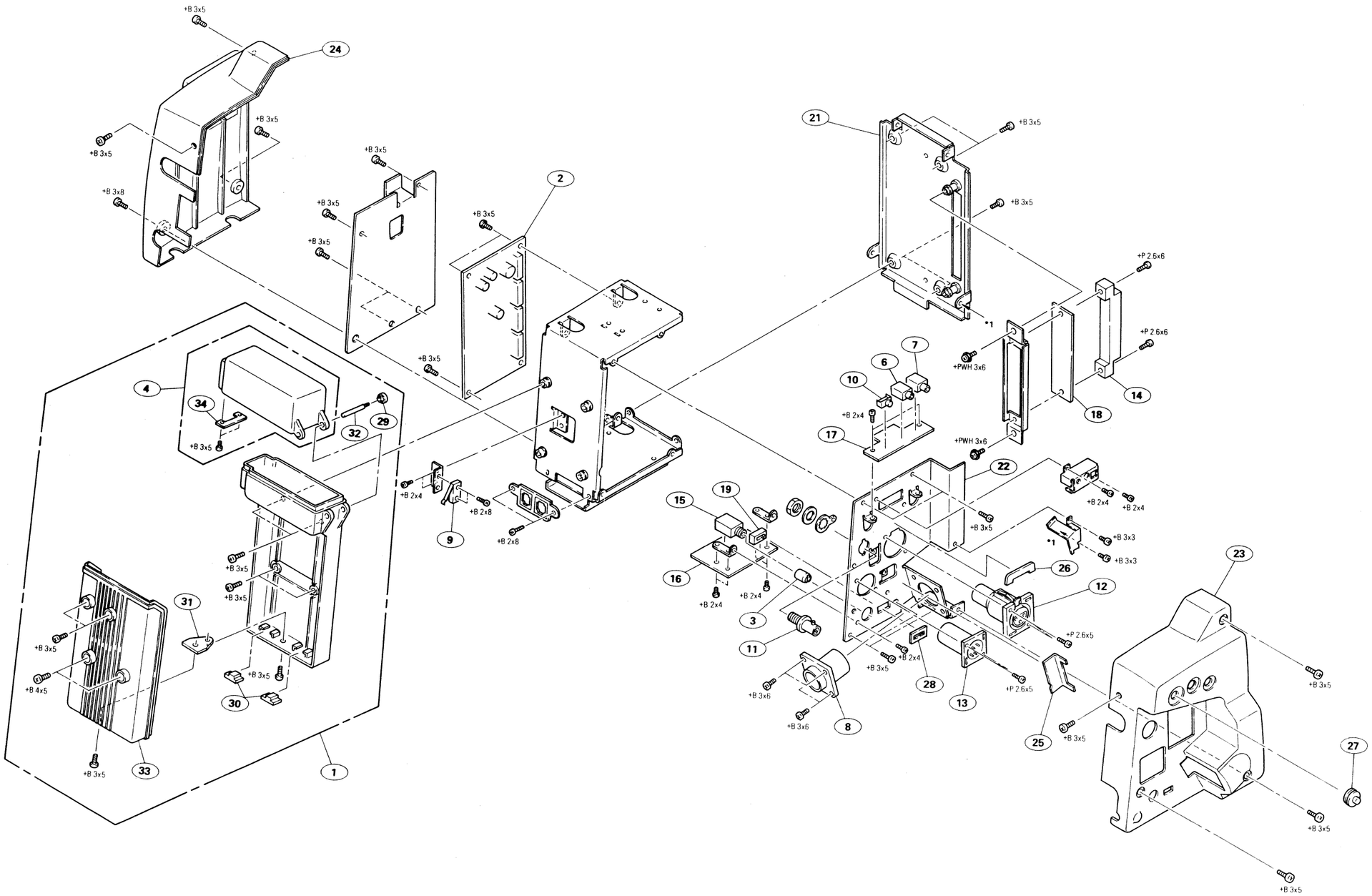
+P Czn-N — 7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-15
x 4	255-25
x 5	255-35
x 6	255-45
x 8	255-55
x 10	255-65
x 12	255-75
x 14	255-85
x 16	256-05
x 20	256-25
2.3 x 5	257-35
x 6	257-45
x 8	257-55
x 10	257-65
x 12	257-75
x 14	257-85
x 16	258-05
x 20	258-25
2.6 x 3	259-15
x 4	259-25
x 5	259-35
x 6	259-45
x 8	259-55
x 10	259-65
x 12	259-75
x 14	259-85
x 16	260-05
x 20	260-25

+PWH — 7-682-□□□-□□

SIZE	Parts No.
2.6 x 4	
x 5	902-11
x 6	902-21
x 8	902-31
x 10	
x 12	902-51
x 14	
3 x 5	903-01
x 6	903-11
x 8	903-21
x 10	903-31
x 12	903-41
x 14	
4 x 6	904-01
x 8	904-11
x 10	904-21
x 12	904-31
x 14	904-41
x 16	
x 20	

EXPLODED VIEW



SECTION D
SPARE PARTS

D-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ! on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "**accommodating the improved parts and/or engineering changes**" or "**standardization of genuine parts.**" This manual's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer SONY service bulletions and service manual supplements.

3. **The parts marked with "S" in the SP column** of the exploded views and electical spare parts list are nomally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF.No.	DESCRIPTION	REF.No.	DESCRIPTION	REF.No.	DESCRIPTION
C	CAPACITOR	IC	IC	RP	RESISTOR BLOCK
CN	CONNECTOR	J	JACK	RV	VARIABLE RESISTOR
CV	VARIABLE CAPACITOR	L	INDUCTOR	S	SWITCH
D	DIODE	LV	VARIABLE INDUCTOR	T	TRANSFORMER
DL	DELAY LINE	Q	TRANSISTOR	X	OSCILLATOR
FL	FILTER	R	RESISTOR		

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

D-2. SCREWS

+K Bzn-N — 7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-09
x 5	246-09
x 6	247-09
x 8	248-09
x 10	249-09
x 12	250-09
x 14	251-09
x 16	252-09
x 20	253-09
4 x 6	260-09
x 8	261-09
x 10	262-09
x 12	263-09
x 14	264-09
x 16	265-09
x 20	266-09
5 x 8	274-09
x 10	275-09
x 12	276-09
x 14	277-09
x 16	278-09
x 20	279-09
x 25	280-09
x 30	281-09
x 35	282-09
x 40	283-09
x 45	284-09
x 50	285-09

PRECISION +P Bzn-N — 7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	552-18
x 1.8	–
x 2	552-28
x 2.2	–
x 2.5	552-08
x 2.8	–
x 3	552-38
x 3.5	552-78
x 4	552-48
x 4.5	–
x 5	552-58
x 5.5	–
x 6	–
2 x 1.8	554-38
x 2	553-18
x 2.2	–
x 2.5	553-28
x 2.8	554-58
x 3	553-38
x 3.5	554-18
x 4	553-48
x 4.5	553-58
x 5	554-28
x 5.5	–
x 6	553-68
x 7	553-88
x 8	553-98
x 10	553-78
2.6 x 2.8	556-08
x 3	–
x 3.5	556-28
x 4	556-38
x 4.5	556-48
x 5	556-58
x 5.5	–
x 6	556-78
x 7	–
x 8	–
x 9	–
x 10	–

+P Ni-N — 7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-12
x 4	255-22
x 5	255-32
x 6	255-42
x 8	255-52
x 10	255-62
x 12	255-72
x 14	–
x 16	–
x 20	–
2.3 x 5	–
x 6	–
x 8	–
x 10	–
x 12	–
x 14	–
x 16	–
x 20	–
2.6 x 3	259-12
x 4	259-22
x 5	259-32
x 6	259-42
x 8	259-52
x 10	259-62
x 12	259-72
x 14	259-82
x 16	260-02
x 20	260-22

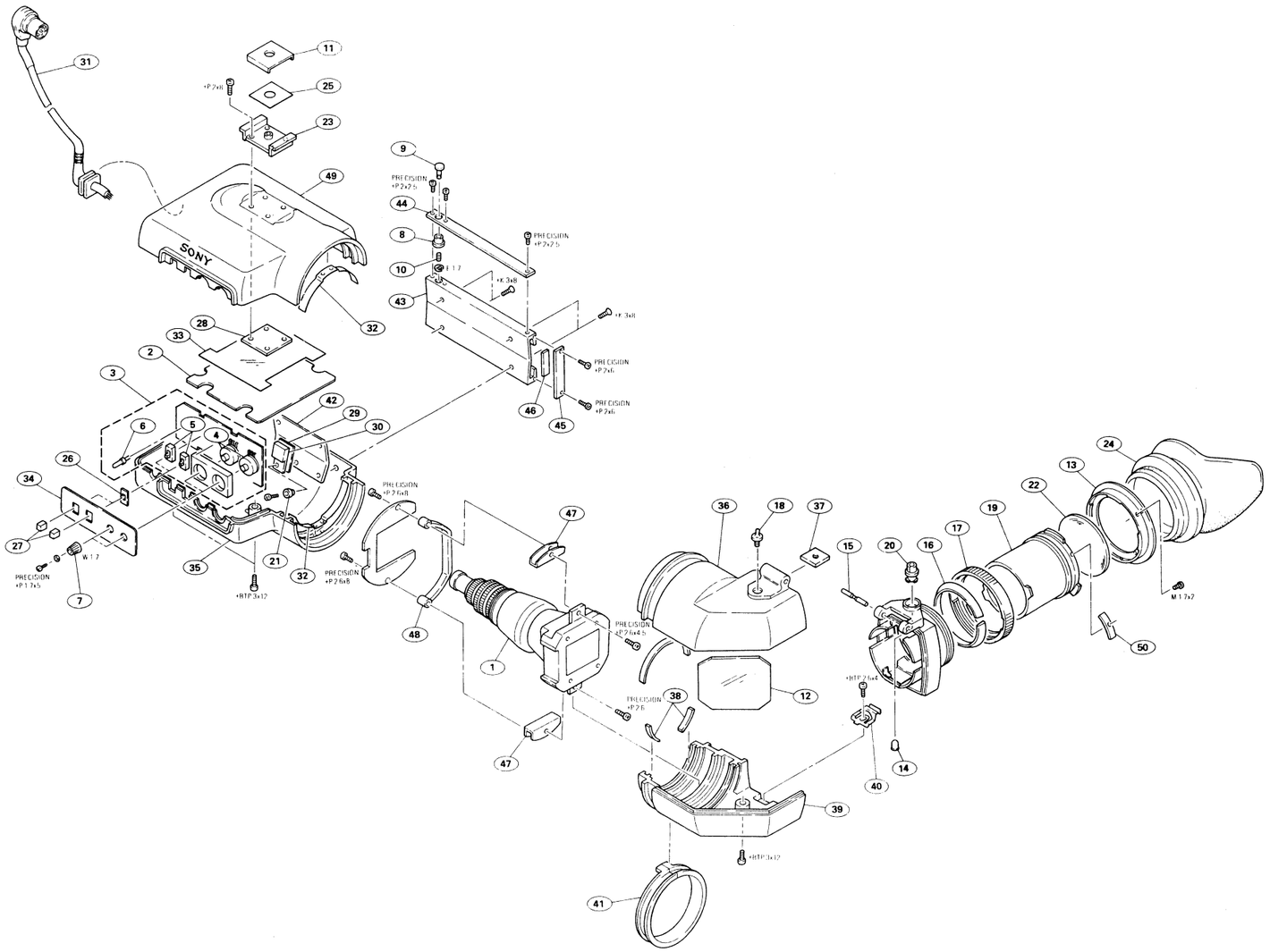
+BTP Bzn-N NON-SLIT — 7-685-□□□-□□

SIZE	Parts No.
2.6 x 4	531-19
2.6 x 5	532-19
2.6 x 6	533-19
2.6 x 8	534-19
2.6 x 10	535-19
2.6 x 12	536-19
2.6 x 14	537-19
2.6 x 16	538-19
3 x 5	544-19
3 x 6	545-19
3 x 8	546-19
3 x 10	547-19
3 x 12	548-19
3 x 14	549-19
3 x 16	550-19
3 x 20	551-19
3 x 25	552-19
3 x 30	553-19
3 x 35	554-19
3 x 40	555-19
3 x 45	–
3 x 50	596-19
3 x 60	–

+P Bzn-N — 7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-10
x 4	255-20
x 5	283-00
x 6	255-40
x 8	255-50
x 10	283-10
x 12	283-70
x 14	–
x 16	–
x 20	256-20
2.3 x 5	–
x 6	–
x 8	–
x 10	–
x 12	–
x 14	–
x 16	–
x 20	–
2.6 x 3	259-10
x 4	284-00
x 5	284-10
x 6	284-20
x 8	284-30
x 10	284-40
x 12	259-70
x 14	259-80
x 16	260-00
x 20	260-20

D-3. EXPLODED VIEW



No.	Parts No.	SP	Description
⚠1	1-546-078-11	s	CRT/DY ASSY
2	1-589-128-11	o	MAIN BOARD
3	1-589-129-11	o	SW BOARD (FOR UC)
	1-589-129-21	o	SW BOARD (FOR EK)
4	1-230-075-11	s	CARBON 2K "CONTR" "BRIGHT"
5	1-570-845-11	s	SWITCH, SLIDE "PEAKING ON/OFF" "TALLY ON/OFF"
6	1-994-802-01	s	LED, SLH-56VT
7	2-277-453-00	o	KNOB, CONTROL
8	2-277-456-00	o	COLLER, STOPPER
9	2-277-457-00	s	KNOB, STOPPER
10	2-277-466-01	o	SPRING, COMPRESSION
11	2-277-468-00	o	PLATE, ORNAMENTAL, CAMERA SHOE
12	2-381-411-00	o	MIRROR
13	2-381-426-02	o	RING, LENS
14	2-381-461-02	s	PIN, BLIND
15	2-381-462-01	o	PIN
16	2-381-466-01	o	RING, RETAINER
17	2-381-467-01	o	RING (2), LENS
18	2-381-468-01	s	PIN, STOPPER
19	2-381-470-02	o	HOLDER, LENS
20	2-381-472-02	o	STOPPER
21	2-832-007-00	s	BUSHING (K), INSULATING
22	3-657-626-00	o	LUPE, VF
23	3-657-700-00	s	BRACKET, ACCESSORY
24	3-657-771-02	s	EYECUP (2)
25	3-672-213-00	o	SHEET, ADHESIVE
26	3-680-604-01	o	PLATE, BLIND
27	3-680-605-00	o	CAP, SLIDE
28	3-688-709-01	o	NUT, PLATE, SHOE
29	3-703-037-00	s	INSULATOR, TO-220
30	8-829-315-63	s	TRANSISTOR, 2SB856
31	9-994-797-01	s	CABLE, VF
32	9-994-811-01	o	SPRING, PLATE
33	9-994-812-01	o	INSULATOR
34	9-994-813-01	o	LABEL, SW
35	9-994-814-01	o	CASE, BOTTOM
36	9-994-815-01	o	HOLDER T, OUTSIDE
37	9-994-816-01	o	PLATE, NUT
38	9-994-817-01	o	MOLT
39	9-994-818-01	o	HOLDER B, OUTSIDE
40	9-994-819-01	o	PIN, LOCK
41	9-994-820-01	o	LING, SLIDE
42	9-994-821-01	o	NUT, PLATE, CASE
43	9-994-822-01	o	GUIDE, VF SLIDE
44	9-994-823-01	o	LABEL, SLIDE
45	9-994-824-01	o	STOPPER
46	9-994-825-01	o	RUBBER, STOPPER
47	9-994-826-01	o	STOPPER, PWB
48	9-994-827-01	o	COLLER
49	9-998-810-00	o	CASE, TOP
50	2-381-493-01	o	PLATE, STOPPER
	Ser No. 30981		and higher (J)
	12091		and higher (UC)
	42851		and higher (EK)

D-4. ELECTRICAL PARTS

Ref. No.	Part No.	SP	Description
RESISTOR, CHIP			
1/10W			
0 - 3.3M (E12) +-5% 1/10W			
	1-216-295-00	s	RES, CHIP 0 5% 1/10W
	1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
	1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
	1-216-304-00	s	RES, CHIP 3.3 5% 1/10W
	1-216-306-00	s	RES, CHIP 3.9 5% 1/10W
	1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
	1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
	1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
	1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
	1-216-001-00	s	RES, CHIP 10 5% 1/10W
	1-216-003-00	s	RES, CHIP 12 5% 1/10W
	1-216-005-00	s	RES, CHIP 15 5% 1/10W
	1-216-007-00	s	RES, CHIP 18 5% 1/10W
	1-216-009-00	s	RES, CHIP 22 5% 1/10W
	1-216-011-00	s	RES, CHIP 27 5% 1/10W
	1-216-013-00	s	RES, CHIP 33 5% 1/10W
	1-216-015-00	s	RES, CHIP 39 5% 1/10W
	1-216-017-00	s	RES, CHIP 47 5% 1/10W
	1-216-019-00	s	RES, CHIP 56 5% 1/10W
	1-216-021-00	s	RES, CHIP 68 5% 1/10W
	1-216-023-00	s	RES, CHIP 82 5% 1/10W
	1-216-025-00	s	RES, CHIP 100 5% 1/10W
	1-216-027-00	s	RES, CHIP 120 5% 1/10W
	1-216-029-00	s	RES, CHIP 150 5% 1/10W
	1-216-031-00	s	RES, CHIP 180 5% 1/10W
	1-216-033-00	s	RES, CHIP 220 5% 1/10W
	1-216-035-00	s	RES, CHIP 270 5% 1/10W
	1-216-037-00	s	RES, CHIP 330 5% 1/10W
	1-216-039-00	s	RES, CHIP 390 5% 1/10W
	1-216-041-00	s	RES, CHIP 470 5% 1/10W
	1-216-043-00	s	RES, CHIP 560 5% 1/10W
	1-216-045-00	s	RES, CHIP 680 5% 1/10W
	1-216-047-00	s	RES, CHIP 820 5% 1/10W
	1-216-049-00	s	RES, CHIP 1k 5% 1/10W
	1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
	1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
	1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
	1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
	1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
	1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
	1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
	1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
	1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
	1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
	1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
	1-216-073-00	s	RES, CHIP 10k 5% 1/10W
	1-216-075-00	s	RES, CHIP 12k 5% 1/10W
	1-216-077-00	s	RES, CHIP 15k 5% 1/10W
	1-216-079-00	s	RES, CHIP 18k 5% 1/10W
	1-216-081-00	s	RES, CHIP 22k 5% 1/10W
	1-216-083-00	s	RES, CHIP 27k 5% 1/10W
	1-216-085-00	s	RES, CHIP 33k 5% 1/10W
	1-216-087-00	s	RES, CHIP 39k 5% 1/10W
	1-216-089-00	s	RES, CHIP 47k 5% 1/10W
	1-216-091-00	s	RES, CHIP 56k 5% 1/10W
	1-216-093-00	s	RES, CHIP 68k 5% 1/10W
	1-216-095-00	s	RES, CHIP 82k 5% 1/10W
	1-216-097-00	s	RES, CHIP 100k 5% 1/10W
	1-216-099-00	s	RES, CHIP 120k 5% 1/10W
	1-216-101-00	s	RES, CHIP 150k 5% 1/10W
	1-216-103-00	s	RES, CHIP 180k 5% 1/10W
	1-216-105-00	s	RES, CHIP 220k 5% 1/10W
	1-216-107-00	s	RES, CHIP 270k 5% 1/10W
	1-216-109-00	s	RES, CHIP 330k 5% 1/10W
	1-216-111-00	s	RES, CHIP 390k 5% 1/10W
	1-216-113-00	s	RES, CHIP 470k 5% 1/10W
	1-216-115-00	s	RES, CHIP 560k 5% 1/10W
	1-216-117-00	s	RES, CHIP 680k 5% 1/10W
	1-216-119-00	s	RES, CHIP 820k 5% 1/10W
	1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
	1-216-123-00	s	RES, CHIP 1.2M 5% 1/10W
	1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
	1-216-127-00	s	RES, CHIP 1.8M 5% 1/10W
	1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
	1-216-131-00	s	RES, CHIP 2.7M 5% 1/10W
	1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

Ref. No.	Part No.	SP	Description
MAIN BOARD			
	1-589-128-11	o	MOUNTED CIRCUIT BOARD "MAIN"
	9-994-794-01	s	CRT
C20	9-994-781-01	s	TANTALUM 47 16V
C21	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C22	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C23	1-126-157-11	s	ELECT 10 20% 16V
C24	1-124-464-11	s	ELECT 0.22 20% 50V
C26	9-994-780-01	s	P-P CONDENCER 0.0047
C28	1-124-438-11	s	ELECT 1 20% 50V
C29	1-124-584-11	s	ELECT 100 20% 10V
C30	1-131-347-00	s	TANTALUM 1 10% 35V
C31	1-126-157-11	s	ELECT 10 20% 16V
C32	1-163-133-11	s	CHIP CERAMIC 470PF 5% 50V
C33	1-126-157-11	s	ELECT 10 20% 16V
C34	1-126-162-11	s	ELECT 3.3 20% 50V
C35	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C36	1-124-455-00	s	ELECT 100 20% 16V
C37	9-994-777-01	s	ELECT 220 6.3V
C38	1-130-481-11	s	CAP,PE TEREPHTHALATE 0.0068 5% 50V
C40	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C43	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C44	9-994-782-01	s	TANTALUM 47 16V
C46	1-126-162-11	s	ELECT 3.3 20% 50V
C48	9-994-783-01	s	0.0056 100V
C49	9-994-778-01	s	ELECT 22 63V
C50	9-994-784-01	s	0.0015 1K
C51	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C52	9-994-779-01	s	ELECT 56 16V
C53	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C54	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C55	1-163-088-11	s	CHIP CERAMIC 0.1 25V
CN4	9-994-791-01	o	RECEPTACLE, 7P
CN7	9-994-792-01	o	RECEPTACLE, 3P
CN8	9-994-793-01	o	RECEPTACLE, 2P
D2	8-719-914-42	s	DA204K
D4	8-719-911-19	s	1SS119
D5	9-994-773-01	s	ERA15-06
D6	9-994-774-01	s	1SS136
D7	8-719-948-45	s	ERA22-08

Ref. No.	Part No.	SP	Description
HLC	1-459-823-11	s	COIL,HORIZONTAL LINEARITY
⚠IC2	8-759-300-28	s	HA11423MP: HITACHI
IC3	8-759-100-94	s	μPC358G2:
Q10	8-729-881-23	s	2SC2812-L7
Q11	8-729-881-23	s	2SC2812-L7
Q12	8-729-100-76	s	2SA812
Q20	8-729-881-23	s	2SC2812-L7
Q21	9-994-771-01	s	2SD1220
Q22	8-729-119-00	s	2SK612
Q23	8-729-162-43	s	2SB624-BV3
⚠R43	1-216-109-11	s	CHIP 330K 5% 1/10W
R44	1-216-083-11	s	CHIP 27K 5% 1/10W
R60	1-216-057-11	s	CHIP 2.2K 5% 1/10W
R61	1-216-057-11	s	CHIP 2.2K 5% 1/10W
R66	9-994-785-01	s	10M
R67	9-994-786-01	s	91K
R69	1-216-081-11	s	CHIP 22K 5% 1/10W
R70	1-216-079-11	s	CHIP 18K 5% 1/10W
R72	1-216-081-11	s	CHIP 22K 5% 1/10W
R73	1-216-081-11	s	CHIP 22K 5% 1/10W
RV10	9-994-787-01	s	5K
RV11	9-994-788-01	s	5K
RV12	9-994-789-01	s	200
RV13	9-994-790-01	s	500
⚠RV20	1-228-459-11	s	METAL 10K
RV21	1-228-458-11	s	METAL 5K
⚠T1	1-439-419-11	s	FBT

Ref. No.	Part No.	SP	Description
SW BOARD			
	1-589-129-11	o	MOUNTED CIRCUIT BOARD "SW" (J,UC)
	1-589-129-21	o	MOUNTED CIRCUIT BOARD "SW" (EK)
C1	1-124-438-11	s	ELECT 1 20% 50V
C3	1-124-584-11	s	ELECT 100 20% 10V
C4	1-124-584-11	s	ELECT 100 20% 10V
C5	1-126-154-11	s	ELECT 47 20% 6.3V
C6	1-124-438-11	s	ELECT 1 20% 50V
C7	1-124-462-11	s	ELECT 10 20% 16V
C8	1-163-113-11	s	CHIP CERAMIC 68PF 5% 50V
C9	1-163-105-11	s	CHIP CERAMIC 33PF 5% 50V
C10	1-163-015-11	s	CHIP CERAMIC 0.0033 10% 50V
C11	1-163-038-11	s	CHIP CERAMIC 0.1 25V
CN1	9-994-803-01	o	8P
CN2	9-994-804-01	o	3P
CN3	9-994-805-01	o	5P
CN4	9-994-806-01	o	7S
CN5	9-994-807-01	o	2P
CP	9-994-808-01	s	PROTECTORS ICP-N10(EK)
D1	8-719-914-43	s	DAN202K
⚠IC1	8-759-630-27	s	M5236ML: MITSUBISHI
L1	9-994-800-01	s	100μH
L2	9-994-801-01	s	47μH
LED1	9-994-802-01	s	SLH-56VT
Q2	8-729-881-23	s	2SC2812-L7
Q3	8-729-881-23	s	2SC2812-L7
Q4	8-729-881-23	s	2SC2812-L7
Q5	1-806-828-11	s	2SC2814
Q6	9-994-796-01	s	2SC3722K
Q7	9-994-796-01	s	2SC3722K
Q8	8-729-881-23	s	2SC2812-L7

Ref. No.	Part No.	SP	Description
⚠R2	9-994-799-01	s	CHIP 24K 5% 1/10W
R3	1-216-064-11	s	CHIP 4.3K 5% 1/10W
⚠RV1	1-228-473-11	s	METAL 5K
RV2	1-230-075-11	s	CARBON 2K "CONTR"
RV3	1-228-475-11	s	METAL 20K
RV4	1-226-368-11	s	CARBON 10K "BRIGHT"
S1	1-570-845-11	s	SLIDE "PEAKING ON/OFF"
S2	1-570-845-11	s	SLIDE "TALLY ON/OFF"
LED BOARD			
	1-589-127-11	o	MAUNTED CIRCUIT BOARD "LED"
	9-994-810-01	o	LED PWB
CN9	9-994-809-01	o	RECEPTACLE, 5P
LED2	8-719-800-25	s	TLR109A
LED3	8-719-800-25	s	TLR109A
LED4	8-719-800-25	s	TLR109A
LED5	8-719-800-19	s	TL0102A
FRAME			
Q1	8-729-315-63	s	2SB856

D-5. PACKING MATERIAL AND ACCESSORIES

	3-699-152-01	o	CUSHION, UPPER
	3-699-153-01	o	CUSHION, LOWER
	3-699-163-01	o	CARTON. INDIVIDUAL(UC)
	3-699-165-01	o	CARTON. INDIVIDUAL(EK)